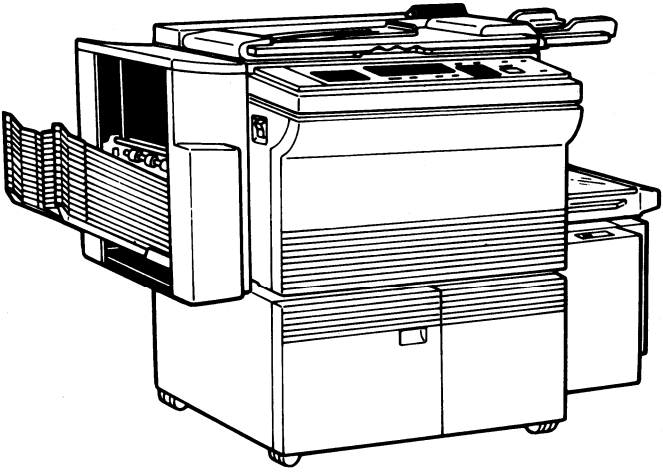
RICOH

RICOH FT5540/5550/5570

SERVICE MANUAL



RICOH COMPANY, LTD.

Table of Contents

OVERALL MACHINE INFORMATION

1. SPECIFICATIONS 1-1

2. GUIDE TO COMPONENTS 1-4

2.1 INTERNAL/EXTERNAL 1-4

2.2 OPERATION PANEL 1-6

2.3 INDICATOR SCREEN 1-8

2.4 GUIDANCE DISPLAY 1-9

3. COPY PROCESSES AROUND THE DRUM 1-10

4. COPY CYCLE 1-12

5. PAPER PATH 1-13

6. DRIVE LAYOUT 1-16

7. MECHANICAL COMPONENT LAYOUT 1-17

8. ELECTRICAL COMPONENT LAYOUT 1-18

9. ELECTRICAL COMPONENT DESCRIPTIONS 1-23

10. OVERALL MACHINE CONTROL 1-28

11. AC AND DC POWER DISTRIBUTION 1-29

DETAILED SECTION DESCRIPTIONS

1. DRUM 2-1

1.1 SELENIUM DRUM CHARACTERISTICS 2-1

1.2 HANDLING THE DRUM 2-1

1.3 DRUM HEATER CONTROL 2-3

2. DRUM CHARGE 2-4

2.1 OVERVIEW 2-4

2.2 WIRE CLEANER 2-5

2.3 CHARGE CORONA POWER PACK 2-6

3. OPTICS 2-7

3.1 OVERVIEW 2-7

3.2 EXPOSURE LAMP CONTROL 2-9

3.3 SCANNER DRIVE 2-10
3.4 SCANNER MOTOR CONTROL 2-11
3.5 LENS/MIRROR POSITIONING 2-12
3.6 FOURTH AND FIFTH MIRROR ASSEMBLY 2-15
3.7 ORIGINAL SIZE DETECTION 2-17
3.8 RELATED SERVICE CALL CONDITIONS 2-17
4. ERASE 2-22
4.1 OVERVIEW 2-22
4.2 LEAD EDGE AND TRAILING EDGE ERASE 2-23
4.3 SIDE ERASE 2-23
4.4 EDGE ERASE FUNCTION 2-24
4.5 ERASE LAMP CIRCUIT 2-25
5. DEVELOPMENT 2-26
5.1 OVERVIEW 2-26
5.2 DEVELOPER EXCHANGE UNIT 2-27
5.3 DRIVE MECHANISM 2-28
5.4 CROSSMIXING 2-29
5.5 IMAGE DENSITY CONTROL 2-30
5.6 BIAS CONTROL CIRCUIT 2-36
5.7 RELATED SERVICE CALL CONDITIONS 2-37
6. TONER DENSITY DETECTION AND TONER SUPPLY 2-38
6.1 TONER SUPPLY 2-38
6.2 BOTTLE DRIVE MECHANISM 2-39
6.3 TONER DENSITY DETECTION 2-40
6.4 TONER DENSITY CONTROL 2-41
6.5 TONER SUPPLY AMOUNT 2-42
6.6 TONER END DETECTION 2-44
6.7 TONER OVERFLOW SENSOR CIRCUIT 2-45
7. IMAGE TRANSFER AND PAPER SEPARATION 2-46
7.1 PRE-TRANSFER LAMP (PTL) 2-46
7.2 IMAGE TRANSFER 2-47
7.3 PAPER SEPARATION 2-49
7.4 TRANSFER/SEPARATION CORONA POWER PACK 2-50
7.5 PICK-OFF MECHANISM 2-52

7.6 PICK-OFF TIMING 2-53
7.7 PRE-TRANSFER LAMP AND QUENCHING LAMP CIRCUIT 2-54
8. DRUM CLEANING 2-55
8.1 OPERATION 2-55
8.2 PRE-CLEANING CORONA AND BIAS ROLLER 2-56
8.3 DRIVE MECHANISM 2-57
8.4 CLEANING BLADE 2-58
8.5 CLEANING SOLENOID CIRCUIT 2-59
8.6 PRE-CLEANING CORONA CIRCUIT 2-60
9. QUENCHING 2-61
9.1 OPERATION 2-61
9.2 PRE-QUENCHING CORONA CIRCUIT 2-62
10. PAPER FEED 2-63
10.1 OVERVIEW 2-63
10.2 LIFT MECHANISM AND PAPER END DETECTION 2-64
10.3 ROLLER FUNCTION 2-66
10.4 SLIP CLUTCH MECHANISM 2-68
10.5 PAPER FEED DRIVE 2-69
10.7 RELAY FEED AND REGISTRATION 2-72
10.8 PAPER SIZE SENSORS 2-74
10.9 LIFT MOTOR CONTROL AND PAPER END DETECTION 2-75
11. PAPER TRANSPORT 2-77
11.1 OVERVIEW 2-77
11.2 TRANSPORT UNIT RELEASE MECHANISM 2-78
12. IMAGE FUSING AND PAPER EXIT 2-79
12.1 OVERVIEW 2-79
12.2 FUSING DRIVE MECHANISM 2-80
12.3 ENTRANCE GUIDE 2-81
12.4 OIL SUPPLY AND CLEANING 2-82
12.5 OIL END SENSOR 2-83
12.6 FUSING EXIT ASSEMBLY 2-84
12.7 FUSING CONTROL 2-85
12.8 SERVICE CALL CONDITIONS 2-88

13. PAPER EXIT 2-90
13,1 OVERVIEW 2-90
13.2 EXIT ROLLER DRIVE MECHANISM 2-91
14. DUPLEX 2-92
14.1 INVERSION 2-92
14.2 DUPLEX TRANSPORT 2-96
14.3 DUPLEX STACKING 2-99
14.4 DUPLEX TRAY SENSORS 2-103
14.5 DUPLEX PAPER FEED 2-104
14.6 RELATED SERVICE CALL CONDITIONS 2-107
15. OTHER CIRCUITS 2-108
15.1 DC POWER DISTRIBUTION 2-108
15.2 SAFETY SWITCH CIRCUITS 2-109
15.3 AC COMPONENT CONTROL 2-110
15.4 CORONA CLEANER MOTORS 2-111
15.5 PULSE GENERATOR 2-112
15.6 MAGNETIC CLUTCH AND SOLENOID CONTROL 2-113
15.7 SENSOR OPERATION 2-114
15.8 COUNTER CIRCUITS 2-117

INSTALLATION

1. INSTALLATION REQUIREMENTS 3-1
1.1 ENVIRONMENT 3-1
1.2 MINIMUM SPACE REQUIREMENTS 3-2
1.3 MACHINE LEVEL 3-3
1.4 POWER SOURCE 3-3
2. ACCESSORY CHECK 3-4
3. INSTALLATION PROCEDURE 3-5
3.1 COPIER INSTALLATION 3-5
3.2 CASSETTE MODIFICATION 3-15
3.3 KEY COUNTER HOLDER INSTALLATION 3-16

SERVICE TABLES

1. PM TABLE 4-1

2. SERVICE TABLES 4-4

2.1 Test Points 4-4

2.2 Variable Resistors 4-4

2.3 DIP SwitchTables 4-5

2.4 User Code Table 4-5

2.5 Service Program SP-8 Data Input Guide Table 4-6

3. SERVICE PROGRAM MODE OPERATION 4-7

3.1 Service Program Access 4-7

3.2 Change Adjustment Values or Modes 4-7

3.3 Memory Clear 4-8

3.4 Service Program Mode Table 4-10

3.5 Language Code Table 4-17

4. SPECIAL TOOLS AND LUBRICANTS 4-18

5. SERVICE REMARKS 4-19

5.1 Handling The Drum 4-19

5.2 Charge Corona 4-19

5.3 Erase Lamp 4-19

5.4 Optics 4-20

5.5 Development Unit 4-20

5.6 Transfer and Separation Corona 4-21

5.7 Cleaning Unit 4-21

5.8 Pre-transfer and Quenching Unit 4-21

5.9 Fusing 4-21

5.10 Paper Feed and Duplex 4-21

5.11 Optional Equipment 4-22

5.12 Handling PCBs 4-22

REPLACEMENT AND ADJUSTMENT

1. OPTICS 5-1

1.1 Exposure Glass Removal 5-1

1.2 Sixth Mirror Replacement 5-2
1.3 Scanner Drive Wire Replacement 5-4
1.4 Fourth and fifth Mirror Drive Wire Replacement 5-8
1.5 Lens Drive Wire Replacement 5-9
1.6 Scanner Harness Replacement (Optics Cables & Exposure Lamp) 5-10
2. DEVELOPMENT 5-12
2.1 Developer Replacement 5-12
2.2 Image Density Sensor Removal 5-14
2.3 Toner Collection Bottle Cleaning 5-15
2.4 Vsg Voltage Checking 5-16
2.5 Vsg Voltage Adjustment 5-17
2.6 Toner Supply System Checking 5-18
2.7 Toner Density Recovery 5-19
2.8 Fixed Supply Mode Selection 5-19
2.9 Toner Amount Changing 5-19
2.10 ID Pattern Bias Voltage Adjustment 5-19
3. CLEANING 5-20
3.1 Pick-off Pawl Replacement 5-20
3.2 Cleaning Blade and Brush Replacement 5-22
3.3 Blade Cleaner and Bias Roller Blade Replacement 5-23
4. FUSING 5-24
4.1 Fusing Unit Removal 5-24
4.2 Oil Blade Replacement 5-25
4.3 Thermistor Replacement 5-26
4.4 Thermofuse Replacement 5-27
4.5 Hot Roller Stripper Replacement 5-28
4.6 Hot Roller Replacement 5-29
4.7 Pressure Roller Replacement 5-32
4.8 Entrance Guide Height Adjustment 5-33
4.9 Fusing Pressure Adjustment 5-34
4.10 Hot Roller Temperature Adjustment 5-35
4.11 Idling Period Selection 5-35
5. PAPER FEED 5-36
5.1 Pick-up, Paper Feed and Separation Roller Replacement 5-36

5.2 Transport Unit Removal 5-37

6. DUPLEX 5-39

6.2 Duplex Transport and Fork Gate Units Removal 5-40

6.3 Jogger Unit Removal 5-42

6.4 Duplex Pick-up and Feed Roller Replacement 5-43

6.5 Duplex Separation Roller Replacement 5-44

6.6 Positioning and Entrance Actuator Rollers Replacement 5-45

6.7 Duplex Pick-up Solenoid Adjustment 5-46

6.8 Jogger Wire Replacement 5-47

7. COPY IMAGE 5-49

7.1 Vertical Magnification Adjustment 5-49

7.2 Horizontal Magnification 5-50

7.3 Focus Adjustment 5-51

7.4 Uneven Exposure Adjustment 5-52

7.5 Light Intensity Adjustment 5-53

7.6 ADS Reference Voltage Setting 5-54

7.7 ADS Voltage Adjustment 5-55

7.8 ADS Operation Checking 5-56

7.9 Erase Adjustment 5-56

7.10 Registration Adjustment 5-57

7.11 Side-to-Side Registration Adjustment 5-58

8. CORONA 5-59

8.1 Charge Corona Wire Replacement 5-59

8.2 Pre-quenching Corona Wire Replacement 5-61

8.3 Transfer and Separation Corona Wires Replacement 5-62

8.4 Charge Cleaner Drive Wire Replacement 5-63

8.5 TC/SC Cleaner Drive Wire Replacement 5-64

8.6 Drum Current Adjustment Preparation 5-65

8.7 Charge Corona Current Adjustment 5-67

8.8 Transfer Corona Current Adjustment 5-68

8.9 Separation Corona Current Adjustment 5-69

8.10 Pre-Cleaning Corona Current Adjustment 5-71

8.11 Pre-Quenching Corona Current Adjustment 5-72

9. OTHERS 5-73
9.1 Power Supply Unit Removal 5-73

ELECTRICAL DATA

1. Main PCB Schematic (1) 6-1
Main PCB Schematic (2) 6-3
2. Optics PCB Schematic 6-4
3. Paper Feed PCB Schematic 6-4
4. Timer PCB Schematic 6-4
5. Timing Chart 6-5
6. 20 Bin Sorter PCB Schematic 6-5
7. ARDF PCB Schematic 6-6
8. Large Capacity Tray PCB Schematic - 1,000 Sheets 6-7
9. Large Capacity Tray PCB Schematic - 2,500 Sheets 6-8
10. 15 Bin Sorter PCB Schematic 6-9
11. 15 Bin Sorter Timing Chart (A4/Letter Mode) 6-10
12. Menu Reader PCB Schematic (upper) 6-11
13. Menu Reader PCB Schematic (lower) 6-12

PAPER BANK

1. SPECIFICATIONS 7-1
2. MECHANICAL COMPONENT LAYOUT 7-2
3. ELECTRICAL COMPONENT LAYOUT 7-3
4. OVERVIEW 7-4
5. PAPER FEED CLUTCH ON TIMING 7-5
6. PAPER SIZE AND VOLUME SENSORS 7-6
7. LIFT MOTOR CONTROL AND PAPER END DETECTION 7-7
7.1 LIFT MOTOR CONTROL 7-7
7.2 PAPER END DETECTION 7-8

8. INSTALLATION 7-9
8.1 Accessory Check 7-9
8.2 Installation Procedure 7-10

DOCUMENT FEEDER

1. SPECIFICATIONS 8-1
2. BASIC OPERATION 8-2
2.1 INTERFACE 8-2
2.2 SINGLE-SIDED ORIGINAL FEED 8-3
2.3 TWO-SIDED ORIGINAL FEED. 8-4
3. FEED-IN UNIT MECHANISM. 8-5
4. SEPARATION MECHANISM 8-6
5. MISFEED PREVENTION 8-7
6. WEAR PREVENTION 8-8
7. FRICTION ROLLER RELEASE MECHANISM 8-9
8. REGISTRATION 8-10
9. INVERTER MECHANISM 8-11
10. FEED-OUT MECHANISM 8-12
11. LIFT MECHANISM 8-13
12. MISFEED CHECK 8-14
13. INSTALLATION 8-16
13.1 Accessory Check 8-16
13.2 Installation Procedure 8-17
14. REPLACEMENT AND ADJUSTMENT 8-25
14.1 DF Belt Drive Motor Speed Adjustment 8-25
14.2 Inverter Turn Gate Solenoid Adjustment 8-27

20 BIN SORTER

1. SPECIFICATIONS 9-1
2. BASIC OPERATION 9-2

2.1 CLEAR MODE 9-2
2.2 SORT MODE 9-2
2.3 STACK MODE 9-2
2.4 EXAMPLE OF SORT MODE OPERATION 9-3
3. BIN DRIVE MECHANISM 9-6
4. BIN HOME POSITION 9-7
5. BINS 9-8
6. ELECTRICAL CONTROL 9-9
7. INSTALLATION 9-10
7.1 Accessory Check 9-10
7.2 Installation Procedure 9-11
8. REPLACEMENT AND ADJUSTMENT 9-15
8.1 Bin Drive Belt Replacement 9-15
8.2 Bin Drive Motor Replacement 9-17
8.3 Bin Replacement 9-18
8.4 Exit Roller Drive Motor Replacement 9-19
8.5 Lower Exit Roller Unit and Exit Sensor Replacement 9-20

1 K LCT

1. SPECIFICATIONS 10-1
2. MECHANICAL COMPONENT LAYOUT 10-2
3. DRIVE LAYOUT AND DRIVE MECHANISM 10-3
4. ELECTRICAL COMPONENT LAYOUT 10-4
5. FUNCTIONAL AND ELECTRICAL DESCRIPTION 10-5
5.1 TRAY OPERATION 10-5
5.2 PAPER SIZE CHANGE AND DETECTION 10-7
5.3 PAPER VOLUME DETECTION 10-8
5.4 COVER SAFETY SWITCH 10-9
6. INSTALLATION 10-10
6.1 Accessory Check 10-10
6.2 Installation Procedure 10-11

7. REPLACEMENT AND ADJUSTMENT 10-15
7.1 Tray Down Sensor and Positioning Switch Replacement 10-15
7.2 Paper Size Sensor Replacement 10-17
7.3 Tray Wire Replacement 10-18
7.4 Paper Volume Cord Replacement 10-21
7.5 Side Registration Adjustment 10-23

2.5 K LCT

1. SPECIFICATIONS 11-1
2. ELECTRICAL COMPONENT LAYOUT 11-2
3. FUNCTIONAL AND ELECTRICAL OPERATION 11-3
3.1 TRAY OPERATION 11-3
4. INSTALLATION 11-5
4.1 Accessory Check 11-5
4.2 Installation Procedure 11-6

MENU READER

1. SPECIFICATIONS 12-1
2. OVERALL MACHINE CONTROL 12-2
3. DATA FORMAT 12-3
4. BASIC OPERATION 12-4
4.1 Job Sheet Reading 12-4
4.2 Menu Reader Indicator Lights 12-6
4.3 Processing Errors 12-7
5. INSTALLATION 12-8
5.1 ACCESSORY CHECK 12-8
5.2 INSTALLATION PROCEDURE 12-9
6. REPLACEMENT AND ADJUSTMENT 12-11
6.1 Lower Transport Roller Replacement 12-11

TROUBLESHOOTING

1. SERVICE CALL CONDITIONS 13-1
2. DEFECTIVE SENSOR TABLE 13-8

15 BIN SORTER

1. SPECIFICATIONS 14-1
2. MECHANICAL COMPONENT LAYOUT 14-2
3. DRIVE LAYOUT 14-3
4. ELECTRICAL COMPONENT LAYOUT 14-4
5. ELECTRICAL COMPONENT DESCRIPTIONS 14-5
6. BASIC OPERATION 14-6
7. FUNCTIONAL AND ELECTRICAL DESCRIPTION 14-10
7.1 Power Supply 14-10
7.2 Bin Gate Operation 14-11
7.3 Relay Guide Plate Reset Mechanism 14-12
7.4 Interface with the Copier 14-13
7.5 Jam Sensors 14-15
7.6 Inlet Sensor 14-16
7.7 Misfeed Check 14-17
8. INSTALLATION 14-19
8.1 Accessory Check 14-19
8.2 Installation Procedure 14-20
9. SERVICE TABLES 14-25
10. REPLACEMENT AND ADJUSTMENT 14-27
10.1 Sorter Removal 14-27
10.2 Inlet sensor Replacement 14-28
10.3 Jam Sensor Replacement 14-29
10.4 Sponge Roller Replacement 14-30
10.5 DC Motor Replacement 14-32

SECTION 1

OVERALL MACHINE INFORMATION

Contents

1. SPECIFICATIONS 1-1

2. GUIDE TO COMPONENTS 1-4

2.1 INTERNAL/EXTERNAL 1-4

2.2 OPERATION PANEL 1-6

2.3 INDICATOR SCREEN 1-8

2.4 GUIDANCE DISPLAY 1-9

3. COPY PROCESSES AROUND THE DRUM 1-10

4. COPY CYCLE 1-12

5. PAPER PATH 1-13

6. DRIVE LAYOUT 1-16

7. MECHANICAL COMPONENT LAYOUT 1-17

8. ELECTRICAL COMPONENT LAYOUT 1-18

9. ELECTRICAL COMPONENT DESCRIPTIONS 1-23

10. OVERALL MACHINE CONTROL 1-28

11. AC AND DC POWER DISTRIBUTION 1-29

1. SPECIFICATIONS

- Item -	- Specifications -
Configuration:	Desk top
Copying Process:	Dry electrostatic transfer system
Original:	Book/Sheet
Original Size:	Maximum A3, 11" x 17"
Reproduction Ratios:	5 reduction ratios, 3 enlargement ratios, zoom : – from 60% to 155% in 1% steps - A4 Version - 5R: 93%, 82%, 75%, 71%, and 65% 3E: 115%, 122%, and 141% - Letter Version - 5R: 93%, 85%, 77%, 74%, and 65% 3E: 121%, 129%, and 155%
Reproduction Ratio Change:	Maximum 6.5 seconds
Warm-Up Time:	Within 5 minutes (Room Temp. 20°C, 68°F)
Copy Paper	Size: – Maximum A3, 11" x 17" – Minimum A6, 5½" x 8½" Weight: – 52 g/m^2 to 157 g/m^2 (14 lb to 42 lb)

Copying Speed:

	A3 (11" x 17")	A4 (S) (11" x 8½")	A4 (L) (8½" x 11")	A5 (S) 5½" x 8½")
F33	22	43	33	48
F34	18	35	27	38

First Copy Time:	F33: 3.8 seconds (A4 or 8½" x 11") (1st cassette) F34: 4.2 seconds (A4 or 8½" x 11") (1st cassette)
Copy Number Input:	Number keys, 1 to 999 (count up or count down)

Special Functions:	• Auto duplexing (3 modes) • Margin adjustment (0 to 16 mm [5/8"] on both sides) • Auto image density selection (ADS) • Automatic paper selection (APS) (with ADF or RDH) • Automatic reduction/enlargement (AMS) (with ADF) • 2 single copies mode (Copies facing pages of a bound original with one press of the Start key.)
Manual Image Density Selection:	7 steps
Automatic Reset:	1 minute standard setting; can also be set to 3 minutes or no auto reset. All functions canceled except cassette selection. Quantity entered returns to "1", and reproduction ratio returns to full size.
Paper Feed:	• Dual universal cassette feed, 500 sheets each • Manual feed table • Large capacity tray (LCT) (optional: 1,000 or 2,500 sheets) • Two additional cassettes with cassette bank (optional: 500 sheets)
Paper Feed System:	Feed and reverse roller
Exposure System:	Slit exposure, moving optics
Lens:	Through lens, F5, f = 215 mm
Light Source:	Halogen lamp (85 V, 160 W; control range 50 to 80 volts RMS)
Photoconductor:	Selenium drum (F-type)
Charge System:	Dual wire dc corona
Erase:	LED lamp unit (80 segments)
Development System:	Magnetic brush roller
Development:	Automatic voltage change (The control board monitors the selected image density level, drum temperature, and rest time.)
Toner Replenishment:	Cartridge exchange (330 g/bottle)
Toner Consumption:	10,000 copies/bottle (7%/A4)

Cleaning System:	Blade and brush, pre-cleaning corona
Quenching System:	Photo-quenching (cold cathode tube) and dc corona
Image Transfer:	Single wire dc corona, pre-transfer lamp
Paper Separation:	Dual wire ac corona and pick-off pawls
Image Fusing:	Heat and pressure rollers
Fusing Lamp:	Halogen lamp (750 W)
Oil Consumption:	80,000 copies per oil tank (360 cc)
Electronic Control System:	8-bit microprocessor
Copy Tray Capacity:	250 sheets (all sizes)
Self-diagnostics:	24 codes, displayed in Guidance Display
Service Programs:	100 programs controlled from the operation panel
Power Source:	110V/60Hz –> 15A 115V/60Hz –> 15A 220V/50Hz –> 8A 240V/50Hz –> 8A
Power Consumption:	See the following table. Numbers are in kilowatts per hour.

	Warm-up	Copying	Stand-by	Max.
Copier	1.0	1.8	0.18	1.5

Dimensions: See the following table. The numbers are in millimeters with inches in parenthesis:

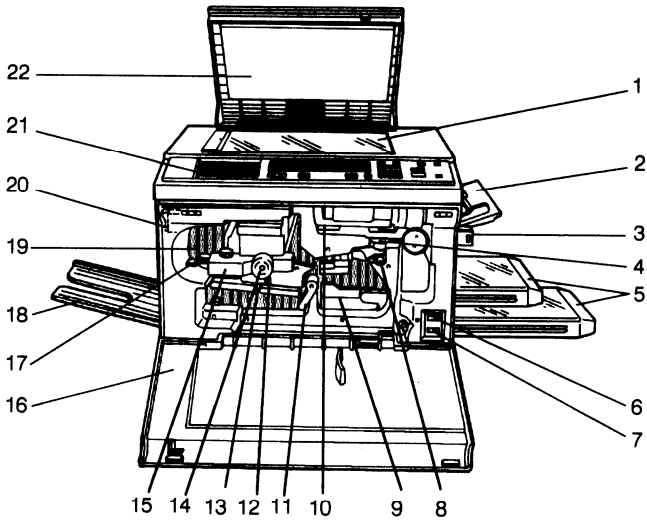
	Width	Depth	Height
Copier only with platen cover	750 mm (29.5")	763 mm (30.0")	500 mm (19.7")
Full System*	1,575 mm (62.0")	763 mm (30.0")	1,065 mm (41 .9")

*With DF, Sorter, LCT (RT21), Paper Bank, Menu Reader

Weight:	(Duplex Model):	115V - 104 kg (228.5 lb) 220V - 107 kg (235.4 lb)
	(Non-duplex Model):	115V - 96 kg (211.2 lb) 220V - 99 kg (217.8 lb)

2. GUIDE TO COMPONENTS

2.1 INTERNAL/EXTERNAL



1. Exposure Glass
Position the original to be copied here.

2. Manual Feed Table
Open to manually feed the copy paper.

3. Key Counter Holder
Insert the key counter into this holder [optional] before copying.

4. Toner Bottle Lever
Turn counterclockwise to remove the toner bottle from its holder.

5. Cassettes
Hold the copy paper.

6. Total Counter
Shows the total number of copies made.

7. A3/11" x 17" Counter
Shows the total number of A3/11" x 17" copies made (optional).

8. Registration Roller Knob
Turn to remove misfed paper.

9. Duplex Tray
Stores the copies before reverse side copying.

10. Toner Bottle Holder
Swing down to replace the toner bottle.

11. Transport Unit Release Lever
Push down to lower the transport unit when removing misfed paper.

12. Fusing Unit Release Lever
Press down to slide out the fusing unit.

13. Fork Gate Unit Lever
Press down to lower the fork gate unit.

14. Fusing Unit Knob
Turn clockwise to remove misfed paper.

15. Silicon Oil Bottle
Add silicone oil to this bottle when the Add Oil indicator lights.

16. Front Cover
Open this cover when the Misfeed, Add Toner, or Add Oil indicator lights.

17. Exit Guide Plate Tab
Raise this guide plate to gain access to the exit area.

18. Copy Tray
Completed copies are delivered here.

19. Inverter Unit
Inverts and feeds copies to the duplex tray.

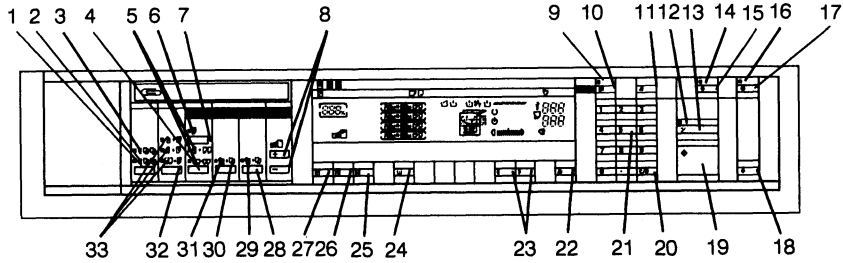
20. Main Switch
Turns on the machine.

21. Operation Panel
The copier's keys and indicators are located here.

22. Platen Cover
Lower the platen cover over originals before copying.

2.2 OPERATION PANEL

A4/A3 Version



1. Sorter Key
Press to use the sorter. Select sort or stack mode.

2. Stack Indicator
Lights when stack mode is selected.

3. Sort Indicator
Lights when sort mode is selected.

4.2 Single Copies Key
Press to make copies from bound originals or two sided originals.

5.2 Single Copies Indicator
Lights when 2 single copies mode is selected.

6. Margin Adjustment Indicator
Lights when Margin Adjustment mode is selected.

7. Margin Adjustment Key
Press to create a margin on copies.

8. Zoom Keys
Press to alter the reproduction ratio in 1% steps.

9. Guidance Indicator
Lights when guidance mode is selected.

10. Guidance Key
Press to select guidance mode.

11. Enter Key
Press after entering data.

12. Interrupt Indicator
Lights when interrupt mode is selected.

13. Interrupt Key
Press to make interrupt copies during a copy run.

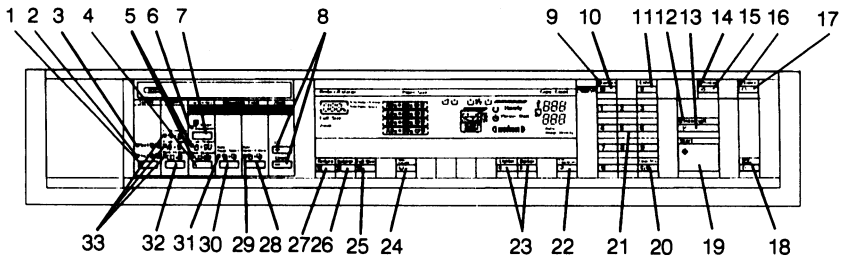
14. Program Indicator
Lights when the user program mode is selected.

15. Program Key
Press to enter or recall user programs.

16. Timer Indicator
Lights when the machine has been turned off by the weekly timer or automatic shut-off timer.

17. Timer Key
Press to operate the copier after it has been turned off by the weekly timer or automatic shut-off timer.

Letter/Legal Version



18. Clear Modes Key
Press to clear the copier of previously entered settings and modes.

19. Start Key
Press to start copying.

20. Clear/Stop Key
Press to cancel the copy number entered or to stop copying.

21. Number Keys
Use the number keys to enter the number of copies. Also, use to select user programs and input original size and copy size when in size magnification mode.

22. Auto Image Density Key
Press to select/clear automatic image density mode.

23. Image Density Keys
Press to cancel automatic control and manually select the image density level.

24. Select Cassette Key
Press to select a cassette.

25. Full Size Key
Press to change reproduction ratio to 100%.

26. Enlarge Key
Press to make enlarged copies.

27. Reduce Key
Press to make reduced copies.

28. Auto Reduce/Enlarge key
Press to select automatic reduce/enlarge mode.

29. Auto Reduce/Enlarge Indicator
Lights when auto reduce/enlarge mode is selected.

30. Auto Paper Select Key
Press to select automatic paper select mode.

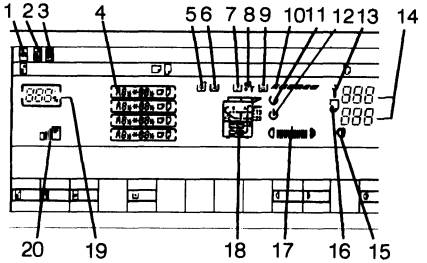
31. Auto Paper Select Indicator
Lights when automatic paper select mode is selected.

32. Duplex Key
Press to select a duplex mode.

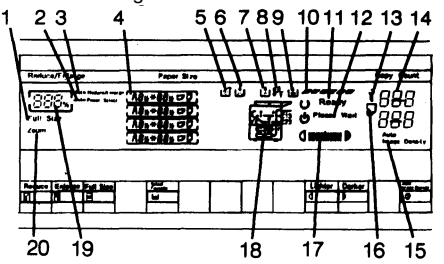
33. Duplex Indicators
Show selected duplex mode.

2.3 INDICATOR SCREEN

A4/A3 Version



Letter/legal version



1. Full Size Mode Indicator
Lights when full size mode is selected.

2. Auto Paper Select Indicator
Lights when auto paper select mode is selected.

3. Auto Reduce/Enlarge Indicator
Lights when auto reduce/enlarge mode is selected.

4. Paper Size Indicator
Shows the selected cassette and paper size.

5. Empty Used Toner Indicator
Lights when the used toner bottle is full; simultaneously, the Call Service indicator blinks.

6. Add Toner Indicator
Blinks when the copier needs toner.

7. Add Oil Indicator
Lights when the silicone oil level is low.

8. Check Paper Path Indicator
Lights if there are misfeeds.

9. Load Paper Indicator
Lights when the selected cassette runs out of paper.

10. Copy Cycle Indicator
Lights during a copy cycle.

11. Ready Indicator
Lights when the copier is ready to copy.

12. Wait Indicator
Lights during warm-up.

13. Call Service Indicator
Lights when the copier has a functional problem.

14. Copy Counter Indicator
(Upper) Displays the number of copies entered.
(Lower) While copying, it shows the number of copies made. (If in count-down mode, it shows the number of copies to be made.)

15. Auto Image Density Indicator
Lights when the copier is automatically controlling image density.

16. Manual Feed Indicator
Lights when the copier is automatically controlling image density.

17. Manual Image Density Indicator
Shows the selected image density.

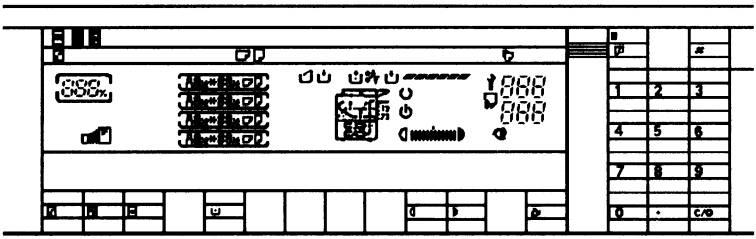
18. Misfeed Location Display
Shows where to check inside the copier if there is a misfeed.

19. Magnification Ratio Indicator
Shows the selected reproduction ratio.

20. Zoom Indicator
Lights when zoom mode is selected.

2.4 GUIDANCE DISPLAY

The Guidance Display shows information about keys and modes, and it guides you through the procedures for operating the copier.



- Information about keys and modes -

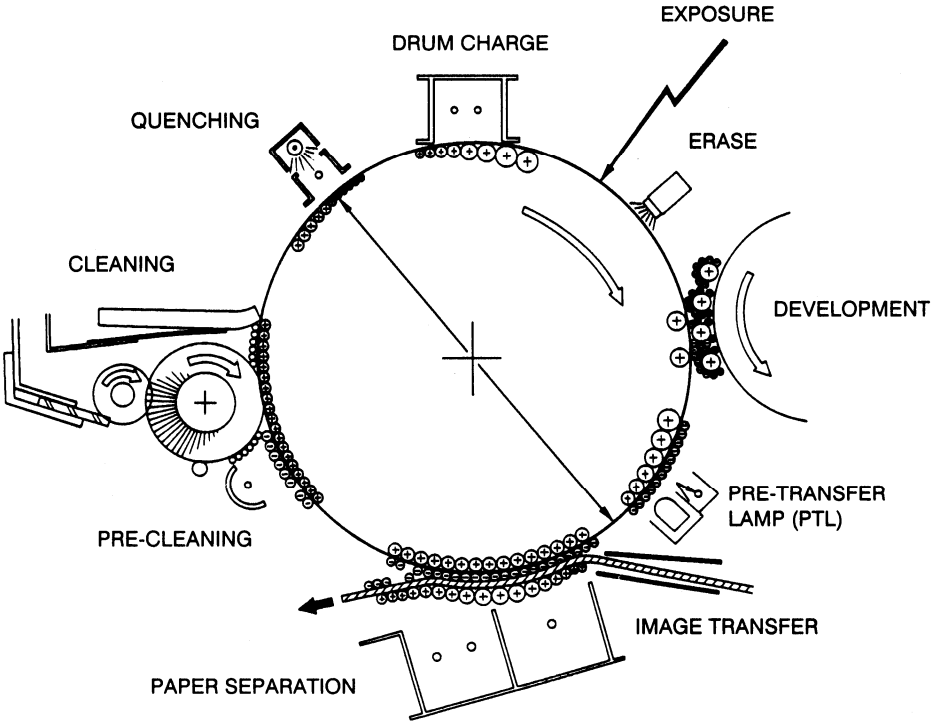
When you need information about keys or modes, press the Guidance key and the key you want information about.

After starting copier operation, you can get information about the current mode by pressing the Guidance key.

Guidance is not available for the following Keys:

- **Number keys**
- **Decimal key**
- **Start key**
- **Manual Image Density key**
- **Select Cassette key**

3. COPY PROCESSES AROUND THE DRUM



DRUM CHARGE

In the dark, the charge corona unit gives a uniform positive charge to the selenium drum. The charge remains on the surface of the drum because the photoconductive selenium has electrical resistance in the dark.

EXPOSURE

An image of the original is reflected to the selenium drum surface via the optics assembly. The charge on the drum surface is dissipated in direct proportion to the intensity of the reflected light, thus producing an electrical latent image on the drum surface.

ERASE

The erase lamp illuminates the areas of the charged drum surface that will not be used for the copy image. The resistance of the drum in the illuminated areas drops and the charge on those areas dissipates.

DEVELOPMENT

Negatively charged toner is attracted to the positively charged areas of the drum, thus developing the latent image. (The negative triboelectric charge is caused by friction between the carrier and toner particles.)

PRE-TRANSFER LAMP (PTL)

The PTL illuminates the drum to remove all positive charge from the exposed areas of the drum. This prevents the toner particles from being reattracted to the drum surface during paper separation and makes paper separation easier.

IMAGE TRANSFER

Paper is fed to the drum surface at the proper time so as to align the copy paper and the developed image on the drum surface. Then, a strong positive charge is applied to the back side of the copy paper, providing an electrical force which pulls the toner particles from the drum surface to the copy paper. At the same time, the copy paper is electrically attracted to the drum surface.

PAPER SEPARATION

A strong ac corona discharge is applied to the back side of the copy paper, reducing the positive charge on the copy paper and breaking the electrical attraction between the paper and the drum. Then, the stiffness of the copy paper causes it to separate from the drum surface. The pick-off pawls help to separate paper which has low stiffness.

PRE-CLEANING

The pre-cleaning corona (PCC) applies an ac corona with a negative bias to the drum. This removes the positive charge from the drum and makes the negative charge on the toner remaining on the drum even.

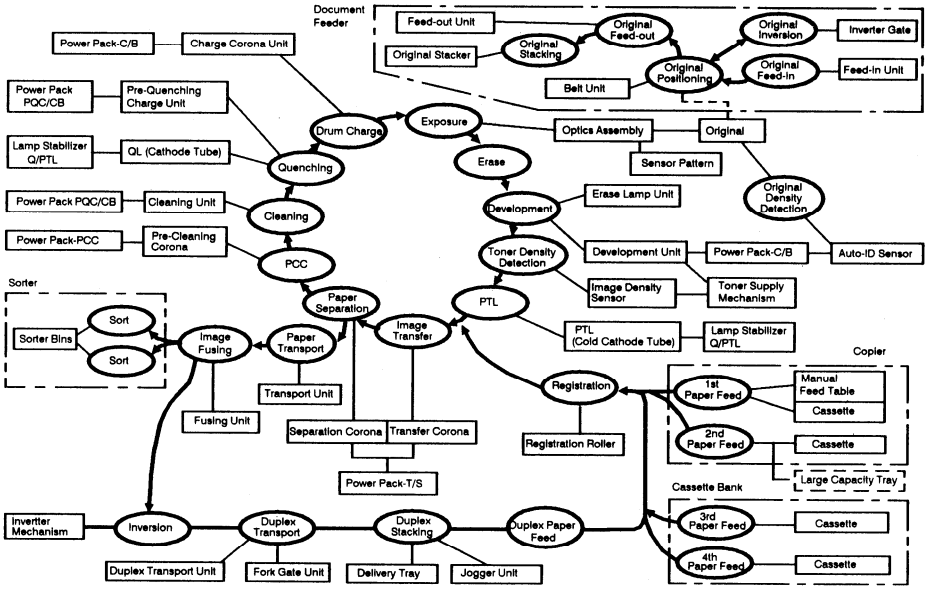
CLEANING

The cleaning brush removes most of the toner on the drum and loosens the remainder. Then, the bias roller, which has a positive potential, attracts the toner particles from the cleaning brush to keep it clean. Finally, the cleaning blade scrapes off the loosened toner.

QUENCHING

The pre-quenching corona applies a positive corona charge to the selenium drum to eliminate any negative charge remaining from the pre-cleaning corona. Then, light from the quenching lamp electrically neutralizes the drum.

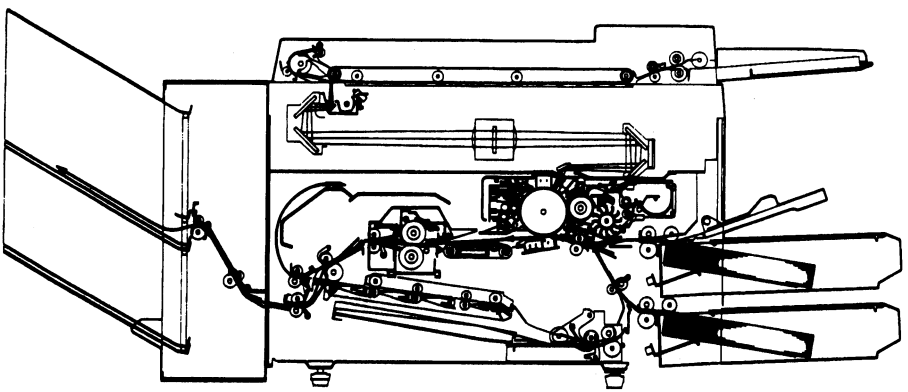
4. COPY CYCLE


Document Feeder
Feed-out Unit
Original Feed-out
Original Inversion
Inverter Gate
Original Stacker
Original Stacking
Original Positioning
Original Feed-in
Feed-in Unit
Belt Unit
Power Pack-C/B
Charge Corona Unit
Power Pack PQC/CB
Pre-Quenching Charge Unit
Drum Charge
Exposure
Optics Assembly
Original
Lamp Stabilizer Q/PTL
QL (Cathode Tube)
Quenching
Erase
Sensor Pattern
Original Density Detection
Power Pack PQC/CB
Cleaning Unit
Cleaning
Development
Erase Lamp Unit
Power Pack-PCC
Pre-Cleaning Corona
PCC
Toner Density Detection
Development Unit
Power Pack-C/B
Auto-ID Sensor
Sorter
Paper Separation
PTL
Image Density Sensor
Toner Supply Mechanism
Sort
Sorter Bins
Sort
Image Fusing
Paper Transport
Image Transfer
PTL (Cold Cathode Tube)
Lamp Stabilizer Q/PTL
Copier
Registration
1st Paper Feed
Manual Feed Table
Cassette
Transport Unit
2nd Paper Feed
Cassette
Fusing Unit
Separation Corona
Transfer Corona
Registration Roller
Large Capacity Tray
Power Pack-T/S
Cassette Bank
Inverter Mechanism
Inversion
Duplex Transport
Duplex Stacking
Duplex Paper Feed
3rd Paper Feed
Cassette
4th Paper Feed
Cassette
Duplex Transport Unit
Fork Gate Unit
Delivery Tray
Jogger Unit

5. PAPER PATH

Paper feed starts from one of the four paper feed stations. The copy paper then follows one of two paths inside the copier. The path followed depends on which mode the operator has selected. For copy processing, all sheets follow the same path from the paper feed mechanism through the fusing unit. After that, normal copies are delivered to the copy tray; however, duplex copies are diverted for further processing. The following discussion follows the route of a single sheet of paper through a duplex cycle.

1. PRIMARY PAPER PATH



Paper Feed:
An FRR (Feed and Reverse Roller) mechanism separates one sheet of paper from the paper stack and feeds it to the registration rollers. If the paper is fed from the second, third, or fourth station, relay rollers move the paper to the registration roller. The registration rollers are not turning at this time. The paper buckles slightly when the leading edge reaches the registration rollers. Buckling seats the sheet securely between the registration rollers and corrects skew.

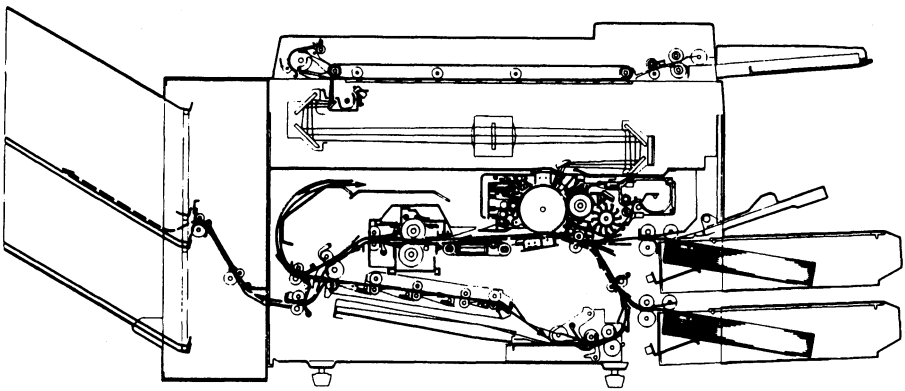
Registration:
At the programmed time, the registration rollers start turning to feed the paper to the drum.

Image Transfer:
The toner image on the drum surface is pulled from the drum onto the passing paper by the transfer corona.

Paper Separation:
The electrostatic attraction between the paper and the drum is broken by the separating corona. The suction of the vacuum fan and the weight of the paper pulls the paper onto the transport belt. The transport belt moves the paper with the developed copy image to the fusing unit.

Fusing:
The paper passes between two rollers which bond the toner image to the paper by applying heat and pressure. At this point the copy is complete, and the paper path splits two ways. Ordinary copies go directly through the exit rollers to the copy tray. Duplex copies are diverted to the inverter unit.

2. DUPLEX COPY PATH



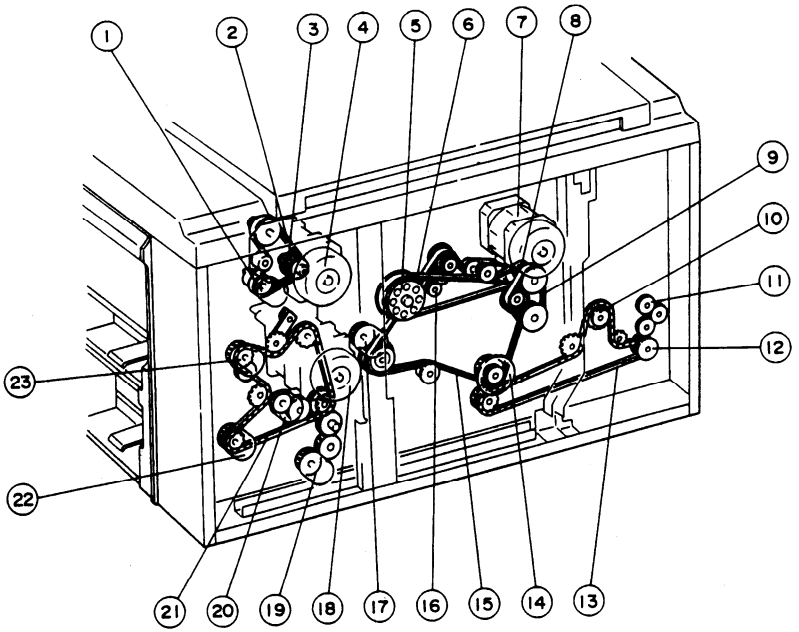
Inverter Unit:
The junction gate directs the paper to the inverter unit, which inverts the copy and sends it to the duplex transport unit.

Duplex Transport:
The duplex transport rollers move the copy to the right. The appropriate fork gate is opened according to the paper size. Then, the copy is sent to the jogger unit through the duplex delivery tray.

Jogger Unit:
The copies are neatly stacked in the jogger unit to prepare them for duplex paper feed.

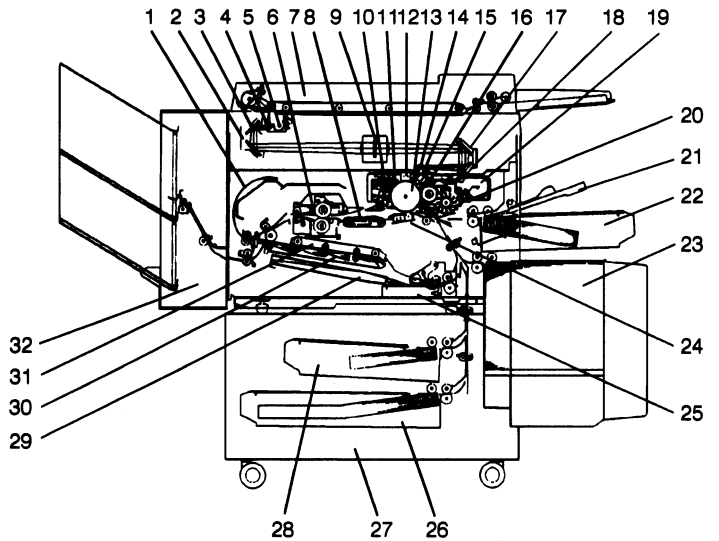
Duplex Paper Feed
The copy is kept in the duplex tray until the operator sets the next original and presses the Start key. Then the duplex feed mechanism feeds the copy up through the first relay rollers to the registration rollers. After reaching the registration rollers, the sheet follows the same path as when the front side was copied. However, this time the reverse side faces up to receive the image.

6. DRIVE LAYOUT



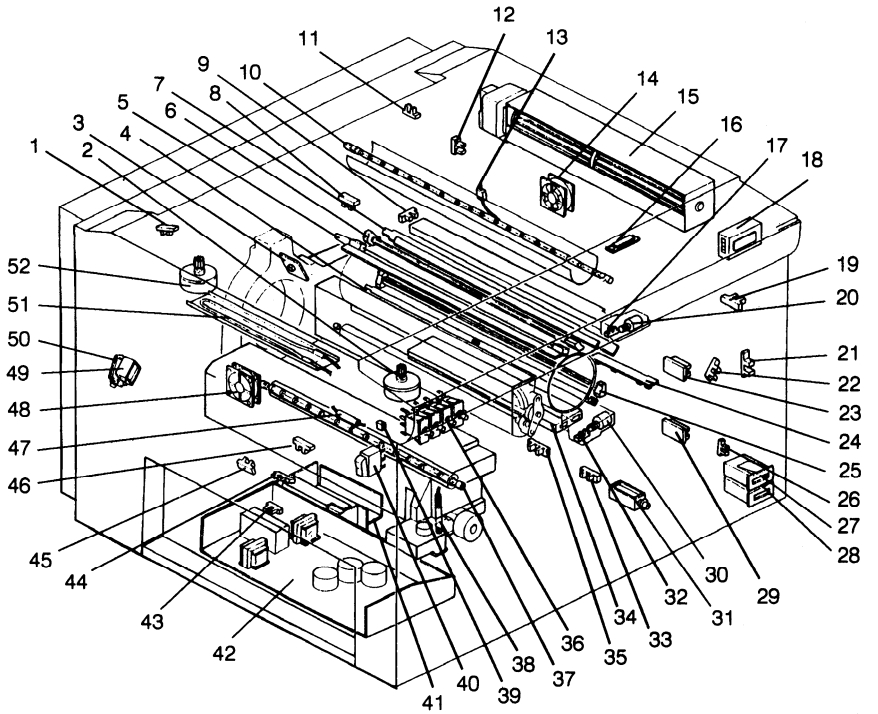
1. Toner Supply Clutch
2. Development Drive Belt
3. Development Drive Gear
4. Development Motor
5. Drum Drive Pulley
6. Drum Drive Belt
7. Main Motor
8. Fusing/Duplex Drive Gears
9. Main Drive Belt
10. Exit Relay Roller Drive Sprocket
11. Inverter Roller Drive Gear
12. Exit Roller Drive Gear
13. Exit Drive Chain
14. Pulse Generator Drive Pulley
15. Registration Roller Drive Belt
16. Cleaning Drive Gear
17. Registration Clutch
18. Paper Feed Motor
19. Duplex Paper Feed Clutch
20. Relay Roller Clutch
21. Paper Feed Drive Chain
22. Second Paper Feed Clutch
23. First Paper Feed Clutch

7. MECHANICAL COMPONENT LAYOUT



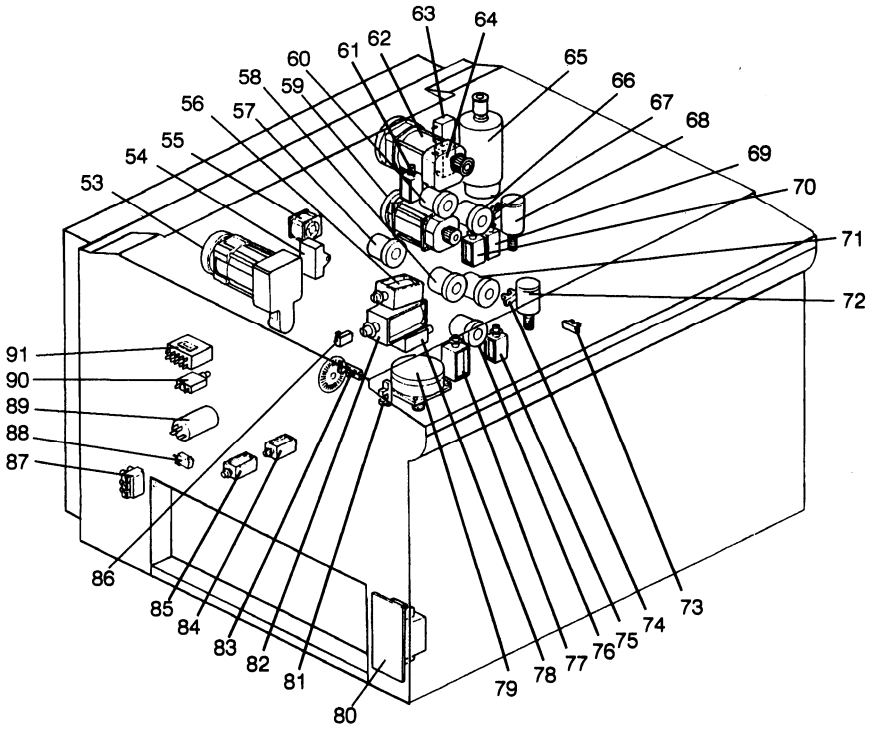
1. Inverter Unit
2. Third Mirror
3. Second Mirror
4. First Mirror
5. Exposure Lamp
6. Fusing Unit
7. Document Feeder
8. Transport Unit
9. Lens
10. Cleaning Unit
11. Quenching Unit
12. Charge Corona Unit
13. Drum
14. Sixth Mirror
15. Toner Shield Glass
16. Erase Lamp Unit
17. Fourth Mirror
18. Fifth Mirror
19. Toner Tank
20. Development Unit
21. Manual Feed Table
22. First Cassette
23. Large Capacity Tray
24. Transfer/Separation Corona Unit
25. Jogger Unit
26. Fourth Cassette
27. Cassette Bank
28. Third Cassette
29. Duplex Delivery Tray
30. Fork Gate Unit
31. Duplex Transport Unit
32. Sorter

8. ELECTRICAL COMPONENT LAYOUT



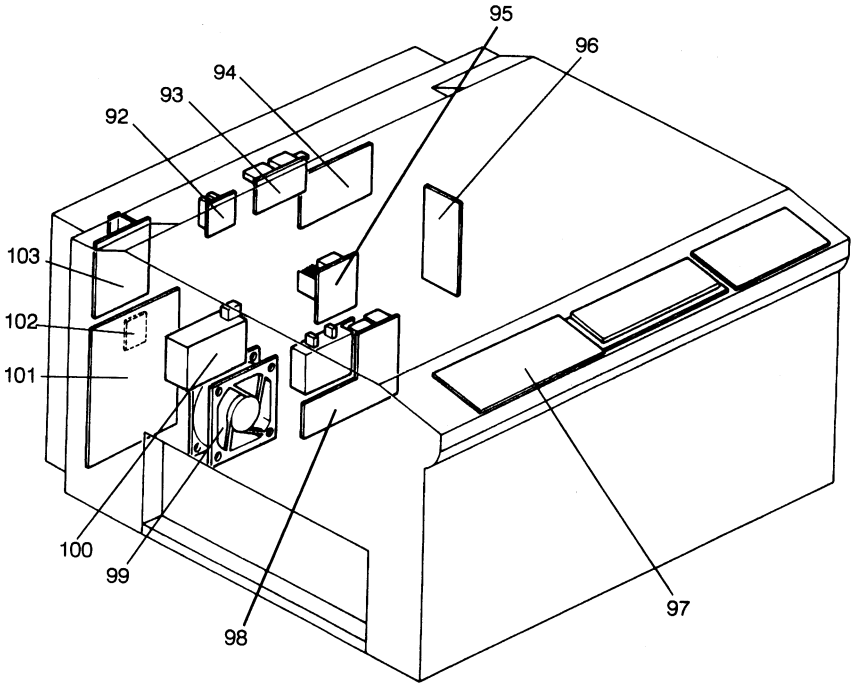
1. Scanner Home Position Sensor
2. 4th and 5th Mirror Drive Motor
3. Toner Overflow Sensor
4. Image Density Sensor PCB
5. PQC (Pre-quenching Corona Wire)
6. QL (Quenching Lamp)
7. Erase Lamp
8. Lens Home Position Sensor
9. Toner End Sensor
10. Exposure Lamp
11. Scanner Overrun Sensor
12. 4th and 5th Mirror Home Position Sensor
13. Auto Density (AD) Sensor
14. Development Cooling Fan Motor

15. Cooling Blower Motor
16. Platen Cover Sensor
17. CC Cleaner Home Position Sensor
18. Key Counter (Option)
19. Manual Feed Sensor
20. CC Cleaner Motor
21. 1st Cassette Paper End Sensor
22. Manual Feed Paper End Sensor
23. 1st Paper Size Sensor
24. Registration Sensor
25. Pre-Transfer Lamp (PTL)
26. 2nd Cassette Paper End Sensor
27. Total Counter
28. A3/LTG Counter (Option)
29. 2nd Paper Size Sensor
30. SC Cleaner Motor
31. Duplex Stopper SOL
32. SC Cleaner Home Position Sensor
33. Duplex Paper Sensor
34. Drum Heater
35. Duplex Entrance Sensor
36. Front Door Safety Switch
37. Fusing Lamp
38. Oil End Sensor
39. Fusing Thermistor
40. Main Switch
41. AC Drive PCB
42. Power Supply Unit
43. Exit Sensor
44. Exit Relay Sensor
45. Inverter Exit Sensor
46. Fusing Exit Sensor
47. Thermofuse
48. Fusing Exhaust Fan Motor
49. Inverter Pressure SOL
50. Junction Gate SOL
51. Anticondensation Heater (option)
52. Lens Drive Motor



53. Main Motor
54. Main Motor Capacitor
55. Charge Fan Motor
56. Pick-off SOL
57. Registration MC
58. 1st Feed Relay MC
59. Paper Feed Motor
60. Toner Supply MC
61. Knocking Solenoid
62. Development Motor
63. Development Motor Capacitor
64. Paper Feed Motor Capacitor
65. Scanner Drive Motor
66. 1st Paper Feed MC
67. 1st Lift Sensor
68. 1st Lift Motor

69. 1st Pick-up SOL
70. Manual Feed SOL
71. 2nd Paper Feed MC
72. 2nd Lift Motor
73. 1st Relay Sensor
74. 2nd Lift Sensor
75. 2nd Pick-up SOL
76. Duplex Paper Feed MC
77. Duplex Positioning SOL
78. Duplex Pick-up SOL
79. Jogger Motor
80. Main Transformer
81. Jogger Home Position Sensor
82. Cleaning SOL
83. Pulse Generator
84. Fork Gate SOL 2
85. Fork Gate SOL 1
86. Transport Unit Safety Switch
87. Terminal Block
88. Fork Gate Unit Safety Switch
89. Noise Filter
90. Circuit Breaker
91. Power Relay



92. SSR PCB
93. PQC/Cleaning Bias Power Pack
94. CC/Developer Bias Power Pack
95. PTL/QL Stabilizer
96. Paper Feed PCB
97. Operation Panel PCB
98. TC/SC Power Pack
99. Vacuum Fan Motor
100. PCC Power Pack
101. Main PCB
102. Timer PCB
103. Optics PCB

9. ELECTRICAL COMPONENT DESCRIPTIONS

NAME	FUNCTION
MOTORS	
Main	Drives all main unit components except optics unit and fans/blower. (100 Vac)
Development Cooling Blower	Blows air to the development unit bottom plate.
Fusing Exhaust Fan	Removes heat from around the fusing unit. (100 Vac)
Cooling Blower	Prevents build up of hot air in the optics cavity. (100 Vac)
Vacuum Fan	Provides suction so paper is held firmly on the transport belt. (100 Vac)
Scanner Drive	Drives the scanner. (dc servo)
Lens Drive	Positions the lens. (dc stepper)
4th/5th Mirror Drive	Positions the 4th/5th mirror assembly. (dc stepper)
Jogger	Drives the jogger plates to keep paper evenly stacked on the duplex tray.
Cleaner Motors	Clean charge and separation wires.
Charge Fan	Ensures even charge on the surface of the drum.
Development	Drives development unit.
1st/2nd Lift Motors	Lift paper to the appropriate feed position.
Paper Feed	Applies paper feed drive to the 1st and 2nd feed stations.
MAGNETIC CLUTCHES	
Registration	Drives the registration roller
1st Paper Feed	Starts paper feed from the first feed station.
2nd Paper Feed	Starts paper feed from the second feed station.
1st Feed Relay	Drives the rollers of the copier relay unit.
Duplex Paper Feed	Feeds paper from the duplex tray.
Toner Supply	Drives toner supply roller.

SOLENOIDS

Cleaning	Moves the cleaning blade against the drum.
Pick-off	Moves the pick-off pawls against the drum.
Junction Gate	Energizes to direct copies to the duplex tray.
Duplex Positioning	Raises and lowers the sponge roller.
Manual Feed	Raises the pick-up roller when paper is fed from the manual feed table.
1st and 2nd Fork Gate	In unison, open and close the appropriate fork gates according to paper size.
Duplex Pick-up	Starts feed from duplex and aids the stopper solenoid.
Duplex Positioning	Lowers positioning roller.
Inverter Pressure	Controls the inverter pressure roller.
Duplex Stopper	Stops copy in the jogger unit.
1st/2nd Pick-up	Starts paper feed from the cassettes.

SWITCHES

Main	Supplies power to the copier.
Front Door Safety	Cuts ac power line.
Transport Unit Safety	Cuts 24-volt lines.
Fork Gate Unit Safety	Cuts 24-volt lines.

SENSORS

Pulse Generator	Supplies timing pulses to the main board.
Exit	Detects misfeeds.
Oil End	Detects the low oil condition.
Toner Overflow	Detects when the used toner bottle is full.
Toner End	Detects when it is time to add toner.
Registration	Detects misfeeds.
Manual Feed	Detects when the manual feed table is open.
Scanner Home	Informs the CPU when the scanner is at the home position.

Lens Home	Informs the CPU when the lens is at the full size position.
4th/5th Mirror Home	Informs the CPU when the 4th/5th mirror assembly is at the full size position.
1st Paper Size	Detects the paper size in the first cassette.
1st Paper End	Informs the CPU when the first cassette runs out of paper.
2nd Paper Size	Detects the paper size in the second cassette.
2nd Paper End	Informs the CPU when the second cassette runs out of paper.
Scanner Overrun	Informs the CPU, if the scanner overshoots the home position.
1st Relay	Detects misfeeds.
Jogger Home	Informs the CPU when the jogger plates are at the home position.
Duplex Paper	Detects whether or not paper is on the duplex tray.
Duplex Entrance	Misfeed detector
Image Density	Detects the density of the image on the drum.
Auto Density (AD)	Senses the background density of the original.
CC Cleaner Home Position	Informs the CPU when the charge wire cleaner has reached home position.
SC Cleaner Home Position	Informs the CPU when the separation wire cleaner has reached home position.
Platen Cover	Informs the CPU that the platen cover is up or down.
Manual Feed Paper End	Informs the CPU that there is no paper in the manual feed tray.
Fusing Exit	Detects misfeeds.
Inverter Exit	Detects misfeeds.
1st Lift	Detects whether paper has been raised to the proper paper feed position.
2nd Lift	Detects whether paper has been raised to the proper paper feed position.

THERMISTORS

Drum	Monitors the temperature around the drum. The CPU selects the bias compensation range based on its input.
Bias	Monitors the temperature around the drum and controls development bias compensation.
Fusing	Monitors the fusing temperature and turns the fusing lamp on/off.

POWER PACKS/STABILIZER

Power Pack - T/S	Provides high voltage for the T/S coronas.
Power Pack - CC/Bias	Provides high voltage for the charge corona and the development roller bias.
Power Pack - Q/BR	Provides high voltage for the quenching corona and the cleaning bias roller.
Power Pack - PCC	Provides high voltage for the pre-cleaning corona.
Lamp Stabilizer	Provides high voltage for the quenching and pre-transfer lamps.

HEATERS

Drum	Warms the drum when the main switch is off.
Anticondensation (option)	Prevents moisture from forming on the optics.

LAMPS

Exposure	Applies high intensity light to the original for exposure.
Fusing	Provides heat to the fusing unit.
Erase	Discharges the drum outside the image area. Erases lead/trail edge.
Quenching	Neutralizes any charge remaining on the drum surface after cleaning.
Pre-transfer	Reduces charge on the drum surface before transfer.

PRINTED CIRCUIT BOARDS

Main	Controls all copier functions both directly and through other PCBs.

Optics	Controls the speed of the scanner, the position of the lens, and the position of the mirrors.
Operation Panel	Controls the LED matrix, and monitors the key matrix.
Paper Feed	Interfaces with overall paper feed; receives input from paper size and paper end sensors.
AC Drive	Drives all ac motors, the exposure lamp, and the fusing lamp.
Timer	Controls weekly timer and timer functions.

COUNTERS

Total	Keeps track of the total number of copies made.
A3/11" x 17"	Keeps track of the total number of A3/11" x 17" copies made. (Option)
Key	Used for control of authorized use. Copier will not operate until installed. (Option)

CIRCUIT BREAKERS

Circuit Breaker	Guards against voltage surges in the input power.

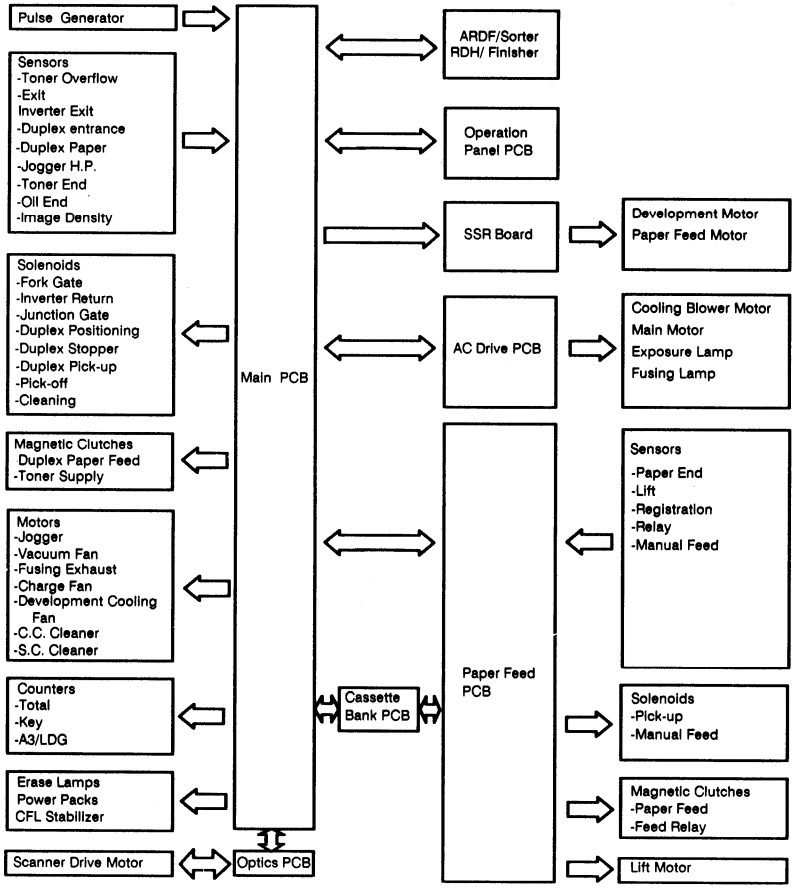
TRANSFORMERS

Main	Steps down the wall voltage to 100 Vac.

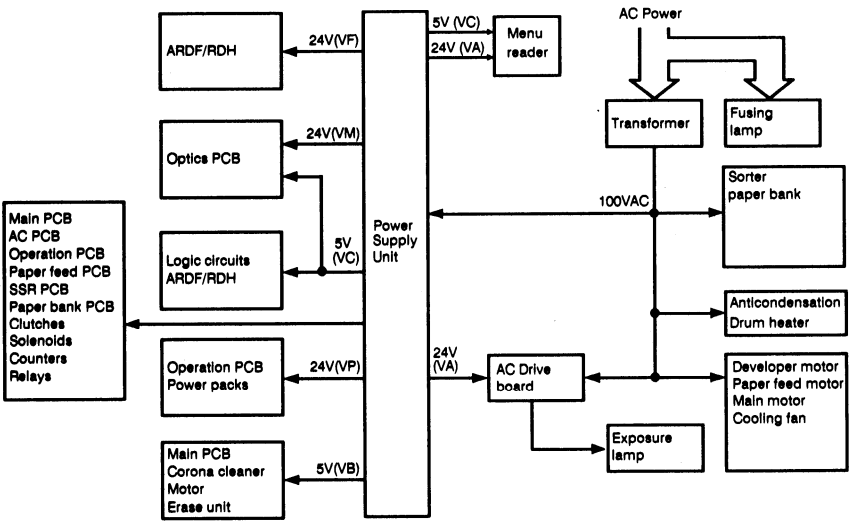
OTHERS

Power Supply Unit	Rectifies 100 Vac input and outputs dc voltages.
Thermofuse	Provides back-up overheat protection in the fusing unit.
AC Power Relay	Controls main power.
Noise Filter	Removes electrical noise.
Main Motor Capacitor	Start capacitor
Development Motor Capacitor	Start capacitor
Paper Feed Capacitor	Start capacitor

10. OVERALL MACHINE CONTROL



11. AC AND DC POWER DISTRIBUTION



The illustration on this page shows the electrical power distribution in block form.

AC power (115/220 volts) is supplied from the wall outlet directly to the fusing lamp and the step-down transformer. The transformer supplies 100 volts ac to the power supply unit, SSR board, ac drive board, and to one side of the fans, motors, heaters, paper bank, and sorter.

The power supply unit has four dc fuses and one ac fuse.

SECTION 2

DETAILED SECTION DESCRIPTIONS

Contents

DETAILED SECTION DESCRIPTIONS

1. DRUM 2-1

1.1 SELENIUM DRUM CHARACTERISTICS 2-1

1.2 HANDLING THE DRUM 2-1

1.3 DRUM HEATER CONTROL 2-3

2. DRUM CHARGE 2-4

2.1 OVERVIEW 2-4

2.2 WIRE CLEANER 2-5

2.3 CHARGE CORONA POWER PACK 2-6

3. OPTICS 2-7

3.1 OVERVIEW 2-7

3.2 EXPOSURE LAMP CONTROL 2-9

3.3 SCANNER DRIVE 2-10

3.4 SCANNER MOTOR CONTROL 2-11

3.5 LENS/MIRROR POSITIONING 2-12

3.6 FOURTH AND FIFTH MIRROR ASSEMBLY 2-15

3.7 ORIGINAL SIZE DETECTION 2-17

3.8 RELATED SERVICE CALL CONDITIONS 2-17

4. ERASE 2-22

4.1 OVERVIEW 2-22

4.2 LEAD EDGE AND TRAILING EDGE ERASE 2-23

4.3 SIDE ERASE 2-23

4.4 EDGE ERASE FUNCTION 2-24

4.5 ERASE LAMP CIRCUIT 2-25

5. DEVELOPMENT 2-26

5.1 OVERVIEW 2-26

5.2 DEVELOPER EXCHANGE UNIT 2-27

5.3 DRIVE MECHANISM 2-28

5.4 IMAGE DENSITY CONTROL 2-30

5.6 BIAS CONTROL CIRCUIT 2-36

5.7 RELATED SERVICE CALL CONDITIONS 2-37

6. TONER DENSITY DETECTION AND TONER SUPPLY 2-38

6.1 TONER SUPPLY 2-38

6.2 BOTTLE DRIVE MECHANISM 2-39

6.3 TONER DENSITY DETECTION 2-40

6.4 TONER DENSITY CONTROL 2-41

6.5 TONER SUPPLY AMOUNT 2-42

6.6 TONER END DETECTION 2-44

6.7 TONER OVERFLOW SENSOR CIRCUIT 2-45

7. IMAGE TRANSFER AND PAPER SEPARATION 2-46

7.1 PRE-TRANSFER LAMP (PTL) 2-46

7.2 IMAGE TRANSFER 2-47

7.3 PAPER SEPARATION 2-49

7.4 TRANSFER/SEPARATION CORONA POWER PACK 2-50

7.5 PICK-OFF MECHANISM 2-52

7.6 PICK-OFF TIMING 2-53

7.7 PRE-TRANSFER LAMPAND QUENCHING LAMP CIRCUIT 2-54

8. DRUM CLEANING 2-55

8.1 OPERATION 2-55

8.2 PRE-CLEANING CORONA AND BIAS ROLLER 2-56

8.3 DRIVE MECHANISM 2-57

8.4 CLEANING BLADE 2-58

8.5 CLEANING SOLENOID CIRCUIT. 2-59

8.6 PRE-CLEANING CORONA CIRCUIT 2-60

9. QUENCHING 2-61

9.1 OPERATION 2-61

9.2 PRE-QUENCHING CORONA CIRCUIT 2-62

10. PAPER FEED 2-63

10.1 OVERVIEW 2-63

10.2 LIFT MECHANISM AND PAPER END DETECTION 2-64

10.3 ROLLER FUNCTION 2-66

10.4 SLIP CLUTCH MECHANISM 2-68

10.5 PAPER FEED DRIVE 2-69

10.6 MANUAL FEED 2-71

10.7 RELAY FEED AND REGISTRATION 2-72

10.8 PAPER SIZE SENSORS 2-74
10.9 LIFT MOTOR CONTROL AND PAPER END DETECTION 2-75
11. PAPER TRANSPORT 2-77
11.1 OVERVIEW 2-77
11.2 TRANSPORT UNIT RELEASE MECHANISM 2-78
12. IMAGE FUSING AND PAPER EXIT 2-79
12.1 OVERVIEW 2-79
12.2 FUSING DRIVE MECHANISM 2-80
12.3 ENTRANCE GUIDE 2-81
12.4 OIL SUPPLY AND CLEANING 2-82
12.5 OIL END SENSOR 2-83
12.6 FUSING EXIT ASSEMBLY 2-84
12.7 FUSING CONTROL 2-85
12.8 SERVICE CALL CONDITIONS 2-88
13. PAPER EXIT 2-90
13.1 OVERVIEW 2-90
13.2 EXIT ROLLER DRIVE MECHANISM 2-91
14. DUPLEX 2-92
14.1 INVERSION 2-92
14.2 DUPLEX TRANSPORT 2-96
14.3 DUPLEX STACKING 2-99
14.4 DUPLEX TRAY SENSORS 2-103
14.5 DUPLEX PAPER FEED 2-104
14.6 RELATED SERVICE CALL CONDITIONS 2-107
15. OTHER CIRCUITS 2-108
15.1 DC POWER DISTRIBUTION 2-108
15.2 SAFETY SWITCH CIRCUITS 2-109
15.3 AC COMPONENT CONTROL 2-110
15.4 CORONA CLEANER MOTORS 2-111
15.5 PULSE GENERATOR 2-112
15.6 MAGNETIC CLUTCH AND SOLENOID CONTROL 2-113
15.7 SENSOR OPERATION 2-114
15.8 COUNTER CIRCUITS 2-117

1. DRUM

1.1 SELENIUM DRUM CHARACTERISTICS

Selenium has the following characteristics:

- Accepts a high positive electrical charge in the dark. (The electrical resistance of selenium is high in the absence of light.)
- Dissipates the electrical charge when exposed to light. (Exposure to light greatly enhances the conductivity of selenium.)
- Dissipates the electrical charge in direct proportion to the intensity of the light. That is, where stronger light is directed to the selenium surface, a smaller voltage remains on the selenium.

The sensitivity of selenium changes slightly with variations in the surface temperature of the drum. (Under cool conditions, the drum conductivity decreases. This will result in background or excessive image density.) As a countermeasure, the development bias is changed to compensate for temperature variations around the drum. Also, while the copier is off, the drum heater warms the drum.

Drum sensitivity also depends on how long the drum has rested between copy runs. The copier's CPU compensates for changes in drum sensitivity due to rest time by changing the development bias. This prevents variations in image density at the beginning of copy runs.

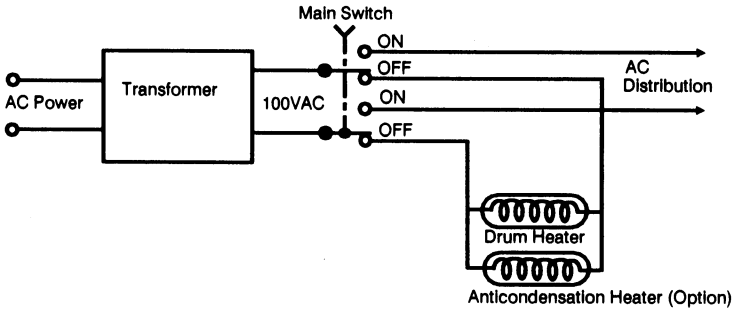
The selenium drum used in this model has high sensitivity, good color reproduction, and good reproduction of low contrast originals (pencil originals, etc.)

1.2 HANDLING THE DRUM

- Never touch the drum surface with bare hands.
- Store the drum in a cool, dry place away from heat.
- When cleaning the drum, always wear a pair of gloves. Do not throw away cotton used for cleaning. Bring it back to the service depot for disposal according to local regulations.
- Prime the drum with setting powder when the drum, cleaning blade, or cleaning brush are replaced. Do this within one minute in a location not exposed to strong light.

- Drum conditioning is necessary when a new drum is installed. In addition, it should be done at the following times:
    1) When image density is reduced due to overexposure of the drum
    2) After cleaning the drum
    3) When the oxide layer on the drum is lightly scratched
- When installing or removing the drum, always keep it in the protective sleeve.
- Before installing or removing the drum, pull out the cleaning unit part way so that the pick-off pawls do not scratch the drum surface.
- Before placing the protective sleeve on the drum while it is in the copier, always take out the development unit. Otherwise, the edge of the sleeve will scrape developer from the development roller.

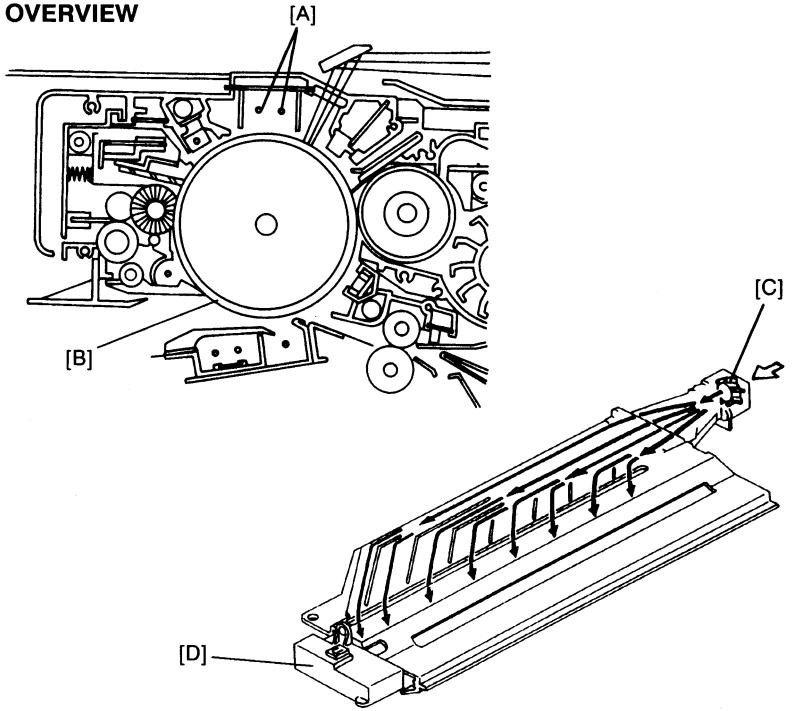
1.3 DRUM HEATER CONTROL



The drum heater receives 100 volts ac only when the main switch is turned off. When the main switch is turned on, the 100 volt ac current stops flowing.

2. DRUM CHARGE

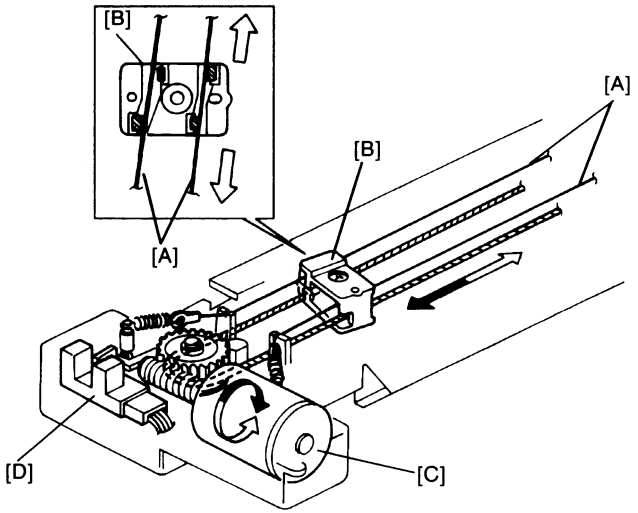
2.1 OVERVIEW



This copier uses a dual wire corotron unit and a highly sensitive selenium drum. The corona wires [A] generate a flow of positive ions when the charge power pack applies a high positive voltage to the corona unit. The drum coating [B] receives a uniform positive charge as it rotates past the corona unit.

The charge fan [C] provides a smooth flow of air to the interior of the charge corona unit [D] to prevent uneven build up of positive ions. (An uneven build up of positive ions could cause uneven image density.)

2.2 WIRE CLEANER



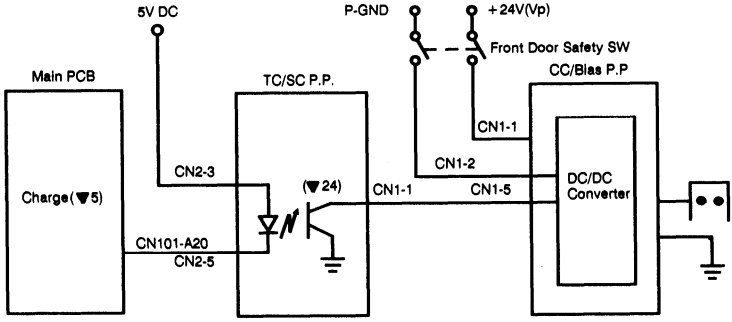
Paper dust or toner particles on the corona wires [A] may interfere with charging. The wire cleaner [B] corrects this problem by automatically wiping the charge corona wires clean. Pads on the wire cleaner bracket clean the corona wires as the dc motor [C] drives the cleaner bracket from the home position to the rear end of the corona unit and then back again.

Operation of the wire cleaner is based on copy count. A RAM counter keeps track of the number of copies made since the last time the wires were cleaned. The CPU checks this counter each time the copier is turned on. If the count is greater than 5,000 at that time, the CPU turns on the cleaner motor to clean the corona wires. Simultaneously, it resets the counter to zero.

During a cleaning cycle, the cleaner motor drives the wire cleaner toward the rear endblock. Normally, the cleaner reaches the rear endblock in about 10 seconds, but the motor stays on for 20 seconds to ensure that the cleaner moves the full distance. Then, the motor reverses to drive the wire cleaner to the home position. The motor turns off when the cleaner activates the home position sensor [D]. If the home position sensor is not activated within 20 seconds after reverse drive is initiated, the CPU stops the motor and adds 1 to the count stored in SP mode 121 (SC85 and 86). Copies can still be made and there is no service call indication on the operation panel.

Note: SC 85 –> The home position sensor does not turn ON.
SC 86 –> The home position sensor does not turn OFF.

2.3 CHARGE CORONA POWER PACK



The circuit operation for the charge corona begins with the input of +5 volts (Vc) at CN2-3. This voltage powers the LED of the photocoupler.

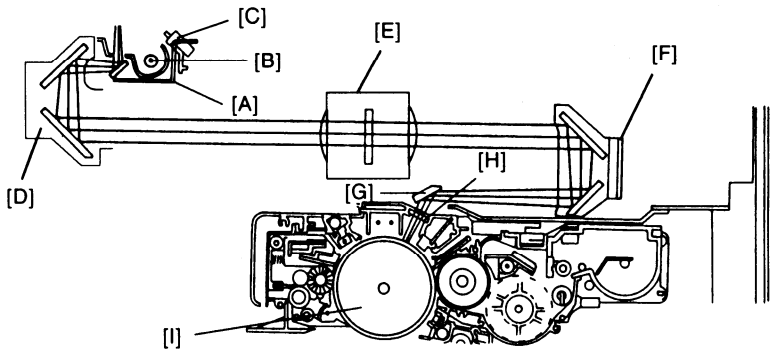
Additionally, 24 volts (Vp) enters the power pack at CN1-1. This power supply is used to produce the high voltage corona. This voltage is interrupted if the front door safety switch opens.

The charge corona turns on 260 milliseconds before the lead edge of the copy is detected by the registration sensor. A LOW signal from the CPU (CN101-A20) is sent to the CC/B power pack through the TC/SC power pack.

The OFF timing of the charge corona power pack varies according to the paper size being used.

3. OPTICS

3.1 OVERVIEW



During the copy cycle, an image of the original is reflected onto the surface of the drum [I] via the optics assembly. The optics assembly consists of the following parts:

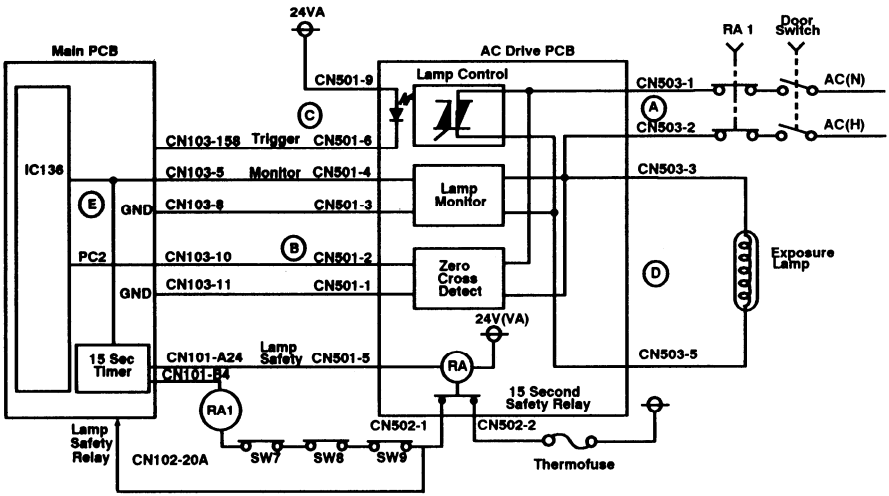
1. First Scanner [A]:
   - Exposure lamp [B] (85V, 160W)
   - First mirror
   - AD (Auto Density) sensor [C]
2. Second Scanner [D]:
   - Second mirror
   - Third mirror
3. Lens (F5, f = 215 mm) [E]
4. Fourth and Fifth Mirror Assembly [F]:
   - Fourth Mirror
   - Fifth Mirror
5. Sixth Mirror [G]:
6. Toner Shield Glass [H]

This copier has nine standard reproduction ratios: five reductions, three enlargements and full size. In addition, it has a zoom function. The reproduction ratio can be selected in one percent steps from 60% to 155%.

A servomotor drives the first and second scanners during the copy cycle. This motor is controlled by the optics PCB, which changes the motor speed depending on the reproduction ratio. Two stepper motors change the position of the lens and the fourth and fifth mirror assembly to change the reproduction ratio. The sixth mirror is fixed.

The fiber optic cable used for the auto density sensor (ADS) is mounted on the first scanner. The ADS collects light reflected from the original in auto density sensing mode.

3.2 EXPOSURE LAMP CONTROL

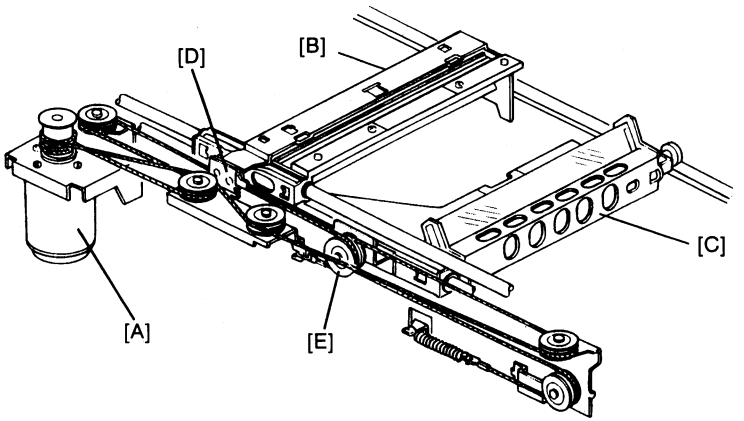


After the Start key is pressed, the main PCB sends the exposure lamp trigger signal [C] to CN501-6 on the ac drive board. The width of the lamp trigger pulse is based on the setting of SP mode #48 and on the zero-cross signal [B] from the ac drive board. This lamp trigger pulse activates the triac on the ac drive board, which provides exposure lamp power [D] from the 100-volt ac line [A].

The power supplied to the exposure lamp is also provided to the lamp monitor circuit, which rectifies it and supplies it to the Sub CPU analog port [E]. This allows fine tuning of the trigger pulse width and ensures accurate circuit operation. The lamp monitor signal is also monitored by a timer circuit in the main board. Should this signal stay active for longer than 15 seconds, the main board energizes relay RA on the ac drive board. This causes relay RA1 to de-energize, removing power from the exposure lamp. The copier stops and SC #12 is displayed.

Use SP mode #51 to display lamp voltage in the guidance display.

3.3 SCANNER DRIVE



This model uses a dc servomotor [A] to drive the first [B] and second [C] scanners.

This first scanner is attached to the scanner drive wire by the wire clamp [D]. The second scanner is connected to the scanner drive wire by a movable pulley [E] (the second scanner pulley).

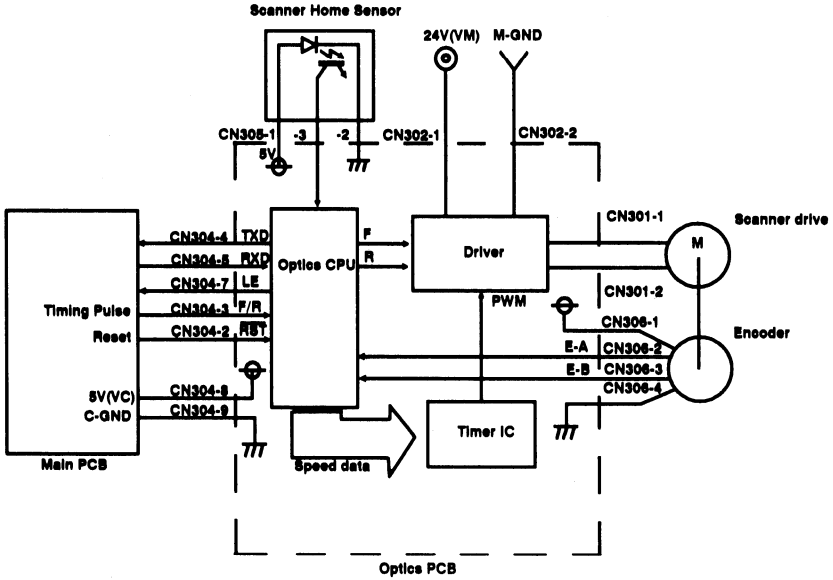
The second scanner pulley moves the second scanner at half the velocity of the first scanner. This maintains the focal distance between the original and the lens during scanning. This relationship can be expressed as follows:

$$V1r = 2(V2r) = VD/r$$

where
- r: Reproduction
- V1r: First Scanner Velocity (when the Reproduction ratio is "r")
- V2r: Second Scanner Velocity (when the Reproduction ratio is "r")
- VD: Drum Peripheral Velocity (300 mm/s)

The first scanner wire clamp also actuates the home position sensor. The CPU on the optics board controls both the registration and return timing.

3.4 SCANNER MOTOR CONTROL



The scanner drive motor is a dc servomotor. The CPU on the optics board controls the speed of this servomotor. The main CPU and the optics CPU communicate through a serial interface bus (TXD/RXD).

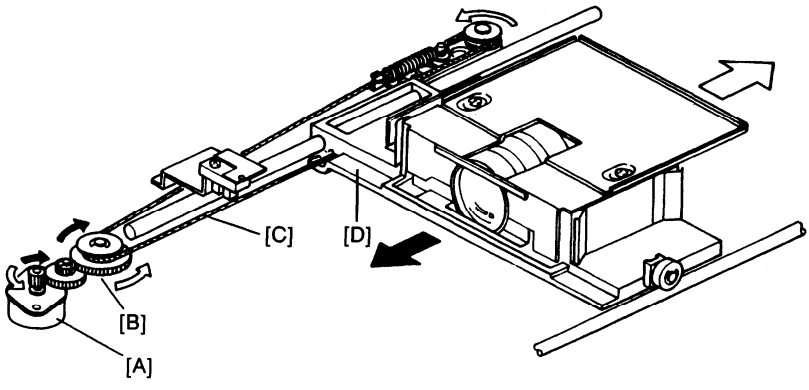
After the main CPU sends the scanner start signal to the optics CPU, the optics CPU receives the drum speed data from the main PCB (pulse generator).

An encoder on the servomotor has two magnetic sensors that generate two pulse signals. The optics CPU monitors the scanner speed and direction by these pulse signals.

Based on the drum speed and encoder data, the optics CPU determines the proper speed for the scanner drive motor to obtain proper vertical magnification. The optics CPU sends the speed data to the timer IC, which controls the scanner motor circuit.

The home position sensor informs the optics board when the first scanner is in the home position.

3.5 LENS/MIRROR POSITIONING

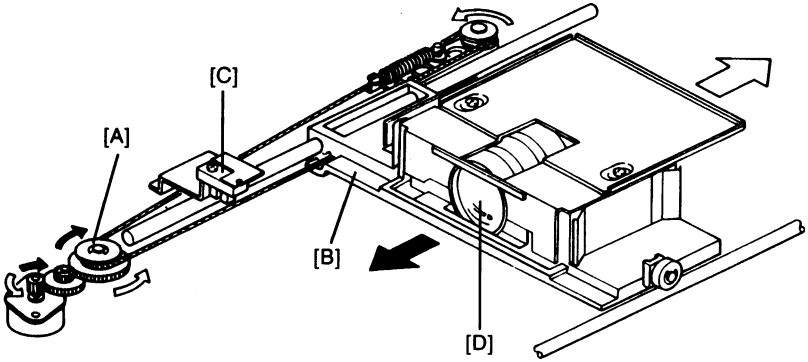


Lens Drive

The lens drive motor (stepper motor) [A] changes the lens position according to the selected reproduction ratio to provide the proper horizontal magnification between the lens and the drum's surface.

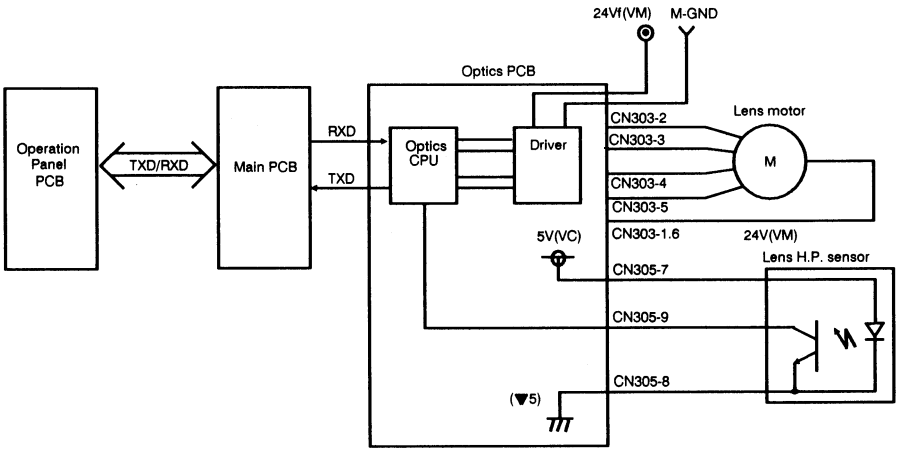
The output gear of the lens drive motor engages the gears [B] of the lens drive pulley. The lens drive wire [C] is wrapped around the lens drive pulley and is connected to the lens drive bracket [D]. The rotation of the lens drive pulley moves the lens back and forth in discrete steps.

Lens Positioning

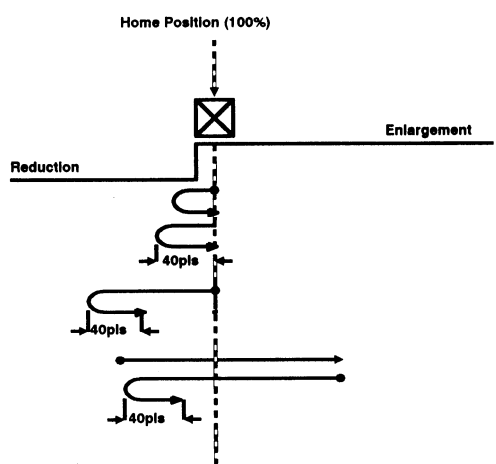


[A] - Lens Drive Pulley
[B] - Lens Housing

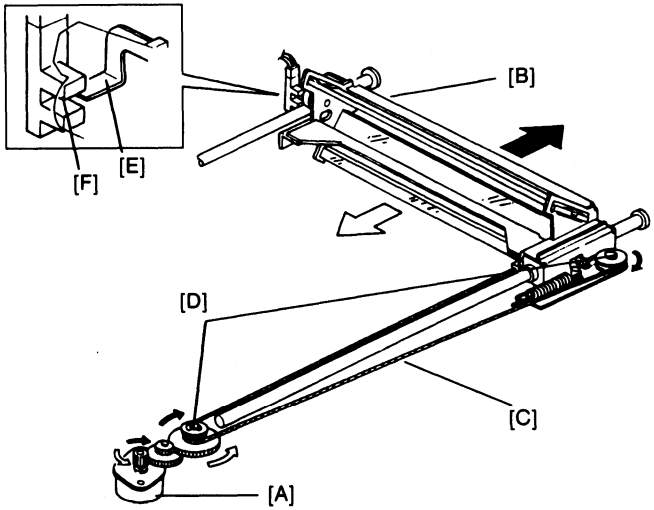
The lens home position sensor [C] informs the optics PCB when the lens [D] is at the full-size position (home position). The optics PCB determines the lens stop position in reduction and enlargement modes by counting the number of steps from the home position. When the reproduction ratio is changed, the lens moves directly to the selected magnification position.



Home position is checked by moving the lens from the enlargement side towards the reduction side. So, when home position is checked, a LOW to HIGH to LOW signal is present at CN305-9 of the optics board. This occurs when the actuator blade enters and exits the lens home position sensor. The lens only references home position when going to full size (at power up, when modes are cleared, when full size is selected.) The lens always overshoots the selected magnification ratio position by 40 steps to eliminate mechanical play when going from enlargement to reduction.



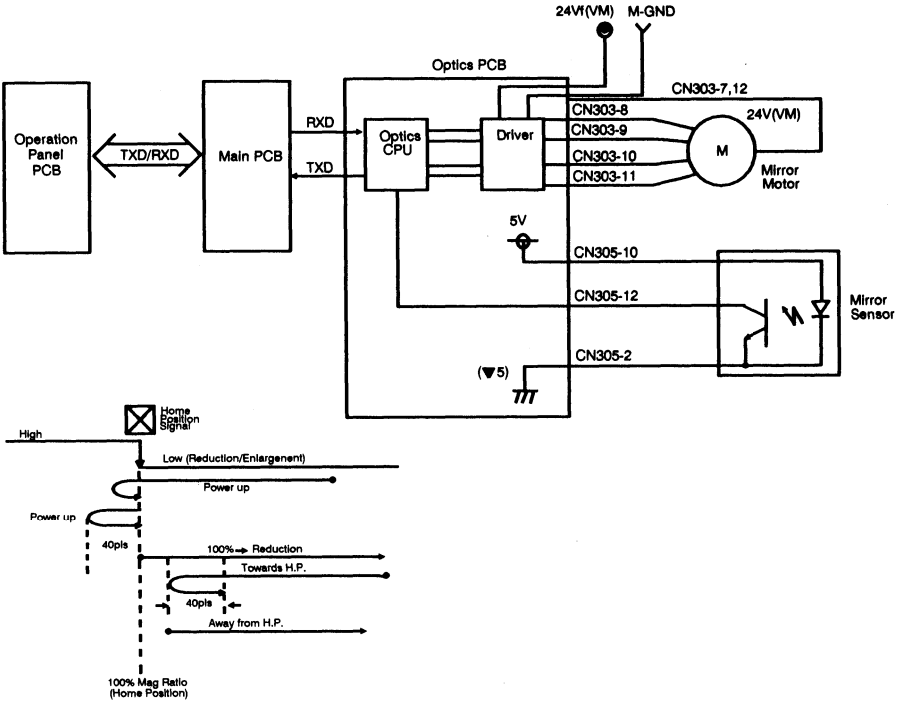
3.6 FOURTH AND FIFTH MIRROR ASSEMBLY



When the reproduction ratio is changed, the stepper motor [A] moves the fourth and fifth mirror assembly [B] using the wire [C] and pulleys [D]. This provides the proper focal distance between the original and the drum.

When the fourth and fifth mirror assembly is in the full-size position, the actuator [E] on the assembly actuates the fourth/fifth mirror home position sensor [F]. This signal goes to the optics CPU.

Fourth and Fifth Mirror Assembly Positioning



The mirror home position sensor informs the optics CPU when the fourth and fifth mirror assembly is at the home position. The home position is determined by a LOW to HIGH to LOW change on CN305-12 of the optics board.

When a reproduction ratio is selected, the operation panel PCB sends this information to the main board. The main board then sends the appropriate trigger signals through the serial line to the optics board.

When moving away from the home position, the mirror drive pulley turns clockwise and moves directly to the selected position. However, when moving towards the home position (pulley turns counterclockwise), the mirror assembly overshoots the selected position by 40 steps (adjust by SP 47) and then returns to the selected position. This takes out any mechanical play.

3.7 ORIGINAL SIZE DETECTION

NOTE: With the F33\34, original size detection is performed using the OL and OW sensors in the ARDF unit. For more information, see the ARDF options section.

3.8 RELATED SERVICE CALL CONDITIONS

Code #11: Exposure Lamp Malfunction

Definition:
Lights if the lamp filament breaks or if the lamp turns on during ready or please wait modes.

Observation:
When the main switch is turned on, call service code “11” is displayed.

Points to Check:
If the lamp is lit during the ready or please wait mode, check CN103-5 on the main PCB. If it is not lit during the copy cycle, check CN501-6 on the main board. Check the exposure lamp.

Code #12: Lamp Relay Open

Definition:
Lights if the lamp stays on longer than 15 seconds during a copy cycle.

Observation:
The lamp remains lit when the scanner returns to the home position.

Points to Check:
Check CN102-A20, CN101-A24, and CN103-5 on the main PCB.

Code #21: Abnormal Encoder Pulse

Definition:
The scanner drive motor is energized until the scanner home position sensor is blocked. If the scanner is not in the home position when the print key is pressed, an excessive number of pulses from the encoder are received, and code 21 is illuminated.

Observation:
The scanner is out of home position when the print key is pressed.

Points to Check:
Check that the scanner is moving properly. Check CN306-2 and CN306-3 on the optics board. Check the scanner drive wire and the scanner drive pulley screws.

Code #22: Scanner Home Position Sensor Stays High

Definition:
Lights if the scanner home position sensor is open at power up.

Observation:
Scanner eventually moves to the extreme right as on/off key is activated until code 2d is displayed.

Points to Check:
Check that the scanner is working properly. Check CN305-3 on the optics board.

Code #24: No Home Position Signal

Definition:
Lights if the main board does not receive the H.P. signal from the optics board within 20 seconds after the scanner return signal.

Observation:
Code 24 is displayed 20 seconds after power-up.

Points to Check:
Check CN106-5 and 6 on the main PCB.
Check CN304-4 and 5 on the optics board.

Code #25: Scanner Home Position Sensor Stays Low

Definition:
Lights if the scanner home position sensor is shorted at power up.

Observation:
Scanner moves to the extreme left at power up.

Points to Check:
Check CN305-3 on the optics board.

Code #28: Lens Home Position Sensor Stays Low

Definition:
Lights if the lens is moving toward enlargement and the H.P. sensor stays at a LOW signal level for longer than 3.82 seconds.

Observations:
The lens always moves toward enlargement at power-up. The lens is to the right of the H.P. sensor and the lens motor does not turn on.

Points to Check:
Check if the lens is moving properly. Check CN305-9 on the optics board. Check the lens drive section, optics board, and lens drive motor.

Code #29: Lens Home Position Sensor Stays High

Definition:
Lights if the lens is moving toward reduction and the H.P. sensor stays at a high signal level longer than 3.82 seconds.

Observations:
The lens always moves toward reduction at power-up. The lens is to the left of the H.P. sensor and the lens motor does not turn on.

Points to Check:
Confirm that the lens is moving properly. Check CN305-9 on the optics board. Check the lens drive section, optics board, and lens drive motor.

Code #2A: 4th/5th Mirror Home Position Sensor Stays Low

Definition:
Lights when the 4th/5th mirror sensor home position sensor does not actuate within 1.83 seconds after the mirror motor turns on.

Observations:

At power-up, the 4th/5th mirror drive rotates counterclockwise past the home position sensor. If the main switch is turned off and on, the mirror motor emits a noise and stays at the home position.

Points to Check:
Confirm that the 4th/5th mirror assembly is moving properly. Check CN305-12 on the optics board. Check the 4th/5th mirror section, optics board, and mirror drive motor.

Code #2B: 4th/5th Mirror Sensor Stays High

Definition:

Lights if the 4th/5th mirror home position sensor remains actuated for 1.83 seconds after the mirror motor turns on.

Observations:
At power-up, the 4th/5th mirror drive rotates clockwise and the actuator leaves the home position sensor. If the main switch is turned off and on, the drive pulley continues to drive in a clockwise direction until the mirror motor emits a noise and stops at the extreme right.

Points to Check:
Confirm that the second scanner moves properly. Check CN305-12 on the optics board. Check the 4th/5th mirror section, optics board, and mirror drive motor.

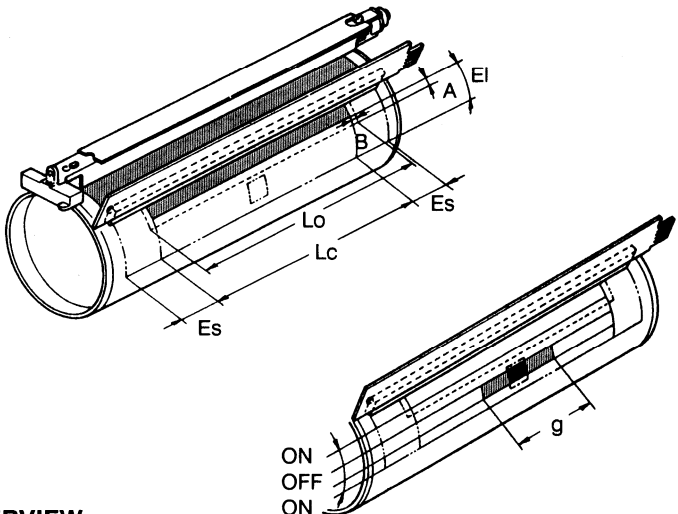
Code #2D: No Encoder Output

Definition:
Lights durnig a copy cycle when the output frequency from the scanner motor encoder is not detected for 490 milliseconds after the scanner motor is energized or if the scanner home position sensor opens or shorts during a copy cycle.

Observation:
During a copy cycle the scanner first moves then stops. The scanner does not move at all.

Points to Check:
Check the scanner drive motor, the scanner home position sensor, and CN306-2, 3 on the optics board.

4. ERASE



4.1 OVERVIEW

A: Lead Edge Erase Margin

B: Side Margins --- 2 ± 2 mm each (For full-size copies the total of both side margins is less than 4 mm.)

Lo: Original Image Width

Lc: Charged Width on the Drum

El: Lead Edge Erase

Es: Side Erase

R: Paper Lead Edge Registration --- 0 ± 2 mm

A+R: Lead Edge Blank Margin --- 3.5 ± 2.5 mm

The erase unit consists of a PCB with 10 registers and a row of 80 LEDs mounted in a plastic casing. The LEDs emit light in the yellow-green part of the spectrum.

The erase lamp performs the following functions: lead edge erase, side erase, trail edge erase, image density pattern [g], and the editing functions. Trail edge erase begins after the trailing edge of the copy paper; therefore, the trailing edge will not appear on the copy.

4.2 LEAD EDGE AND TRAILING EDGE ERASE

The entire bank of erase lamps turns on to erase the drum before and after the image area. Leading edge erase overlaps the paper and the image slightly. The leading edge margin helps prevent fusing jams by making it easier for the stripper pawls to separate the paper from the hot roller. Trailing edge erase turns on about 2 mm after the trailing edge of the copy paper.

The width of the lead edge margin can be adjusted by SP mode #41.

Mode No.	Function	Data	Factory Setting	Comments
41 Lead Edge Erase Margin Adjustment	Adjusts the lead edge margin	0 - 15	8	0.6 mm per step (max. -4.8 mm to +4.2 mm)

During image density detection cycles (once every ten cycles), the center block of erase lamps turns off long enough for the sensor pattern to be developed [g].

4.3 SIDE ERASE

Side erase overlaps the image slightly on either side. The CPU calculates the side erase margins from the paper size and the selected reproduction ratio. As the paper is fed to the center of the drum, the LEDs for side erase turn on in pairs. The erase lamp is not used for side erase with A3 or 11 x 17 paper. For these paper sizes, side erase occurs due to the end block covers of the charge corona.

The CPU adjusts the side erase margin to be as near as possible to the actual image size, even when using the zoom function. However, since the erase lamp LEDs will not work in precise one millimeter intervals, the side erase margin varies slightly depending on the reproduction ratio.

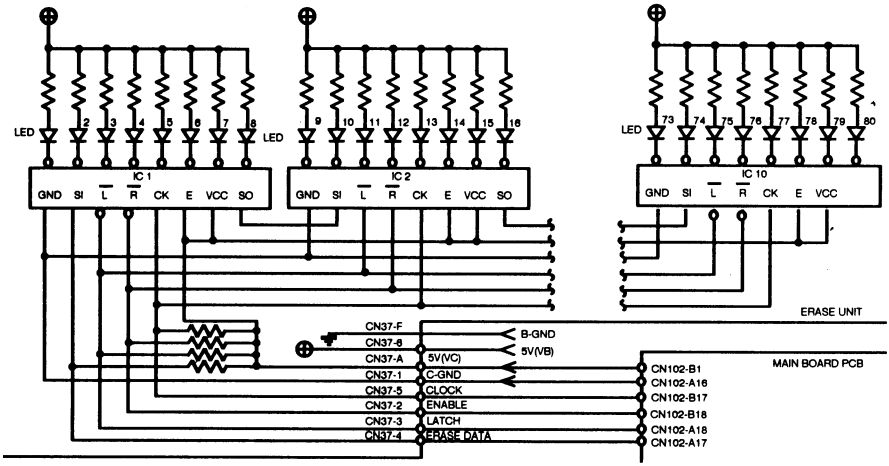
SP 27 decreases the side margins by 5 mm.

4.4 EDGE ERASE FUNCTION

Edge Erase / Paper size	5 mm (0.2")	10 mm (0.4")	15 mm (0.6")	20 mm (0.8")
A3	1-80) 3.5mm	1-2 79-80)8.5mm	1-3 78-80)13.5mm	1-4 77-80)18.5mm
11"	1-3 78-80)4.7	1-4 77-80)9.7	1-6 75-80)14.7	1-8 73-80)22.2
B4	1-6 75-80)3.5	1-8 73-80)11	1-9 72-80)13.5	1-11 70-80)18.5
10"	1-7 74-80)4.5	1-8 73-80)9.5	1-10 71-80)14.5	1-12 69-80)19.5
8-1/2"	1-13 68-80)3	1-15 66-80)8	1-17 64-80)13	1-19 62-80)18
A4	1-15 66-80)5	1-17 64-80)10	1-19 62-80)15	1-21 60-80)20
8"	1-16 65-80)4.1	1-18 63-80)9.1	1-20 61-80)14.1	1-22 59-80)19.1
B5	1-20 61-80)3.5	1-22 59-80)8.5	1-24 57-80)13.5	1-26 55-80)21
A5	1-26 55-80)4	1-27 54-80)9	1-28 53-80)14	1-29 52-80)19
5-1/2"	1-27 54-80)4.85	1-28 53-80)9.85	1-29 52-80)14.85	1-30 51-80)19.85
B6	1-28 53-80)4	1-29 52-80)9	1-30 51-80)14	1-31 50-80)19
A6	1-30 51-80)2.5	1-31 50-80)7.5	1-32 49-80)12.5	1-33 48-80)17.5

The edge erase function erases a border around the copy. The border is adjustable in 4 steps using SP mode #38. These borders are approximately 5, 10, 15, and 20 millimeters wide, but vary slightly according to paper size and the selected reproduction ratio. The table shows the ON/OFF condition of the erase lamp LEDs for the various paper sizes. The factory setting is 10 millimeters.

4.5 ERASE LAMP CIRCUIT



This copier uses 80 LEDs in the erase lamp unit. The large number of LEDs allows precise control of the side erase margins.

Shift register drivers control the LEDs. Initially, the ENABLE signal (LOW active) sets all shift registers to OFF. Then the main board sends ERASE DATA to the shift registers from CN102-A17.

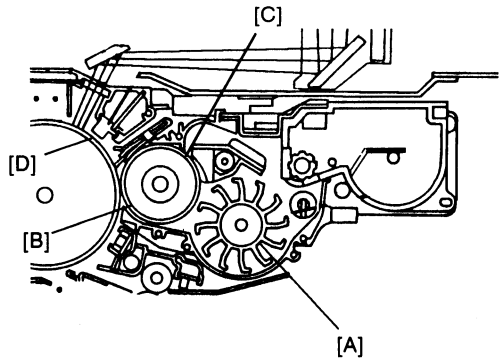
After the ENABLE signal goes back to HIGH, the shift registers start accepting data. The data bit for LED 1 is set at each CLOCK pulse. If the data line is HIGH at the time of the CLOCK pulse, the shift register is set to turn the LED on; if it is LOW, the shift register is set to keep the LED off. The data in the shift registers is shifted right one position each clock pulse; so, it takes 80 CLOCK pulses to set the shift registers for all the LEDs.

After all data bits have been sent, the main board sends the LATCH signal to turn on the erase lamp unit. Simultaneously, the shift registers turn on all LEDs for which data bits have been set.

To turn off the erase lamp unit, the ENABLE signal is reset to LOW.

5. DEVELOPMENT

5.1 OVERVIEW



When the main motor sends a signal to the SSR PCB, the development motor is energized. When it turns on, the paddle roller [A] and development roller [B] start turning. The paddle roller picks up developer in its paddles and transports it to the development roller. Internal permanent magnets in the development roller attract the developer to the development roller sleeve. The turning sleeve of the development roller then carries the developer past the doctor blade [C]. The doctor blade trims the developer to the desired thickness and creates backspill to the crossmixing mechanism.

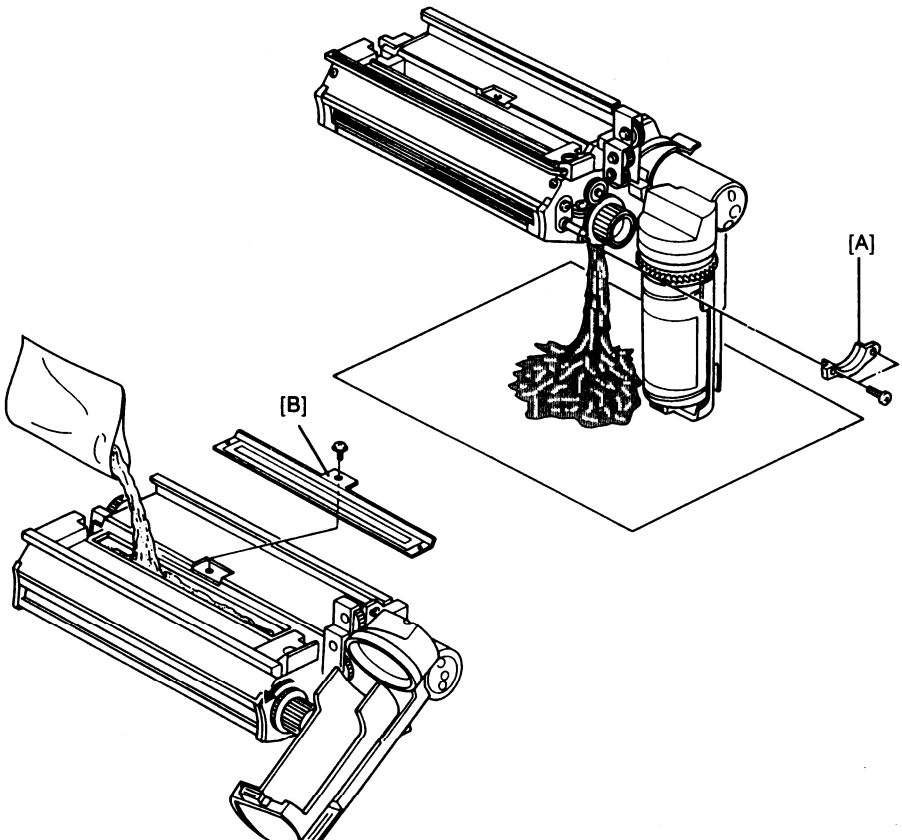
The development roller continues to turn, carrying the developer to the selenium drum [D]. When the developer brush contacts the drum surface, the positively charged areas of the drum surface attract and hold the negatively charged toner. In this way, the latent image is developed.

The development roller is given a positive bias to prevent toner from being attracted to the non-image areas on the drum that may have residual positive charge. The bias controls image density.

After turning another 100 degrees, the development roller releases the developer to the developer tank.

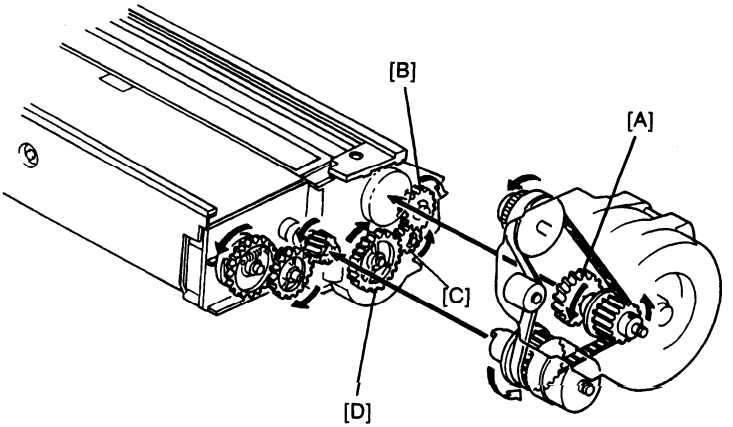
The developer is agitated by the paddle roller and the crossmixing mechanism. The knocking solenoid vibrates the upper cover of the developer unit to prevent toner buildup.

5.2 DEVELOPER EXCHANGE UNIT



The developer exchange plate [A] enables the removal of developer from the development unit. The developer inlet cover [B] enables the addition of developer to the development unit without separating the toner tank from the development unit. SP87 sets the PM cycle. When a predetermined count is reached, the service call indicator blinks, the guidance display indicates “Call for maintenance”, and the start key stays green.

5.3 DRIVE MECHANISM



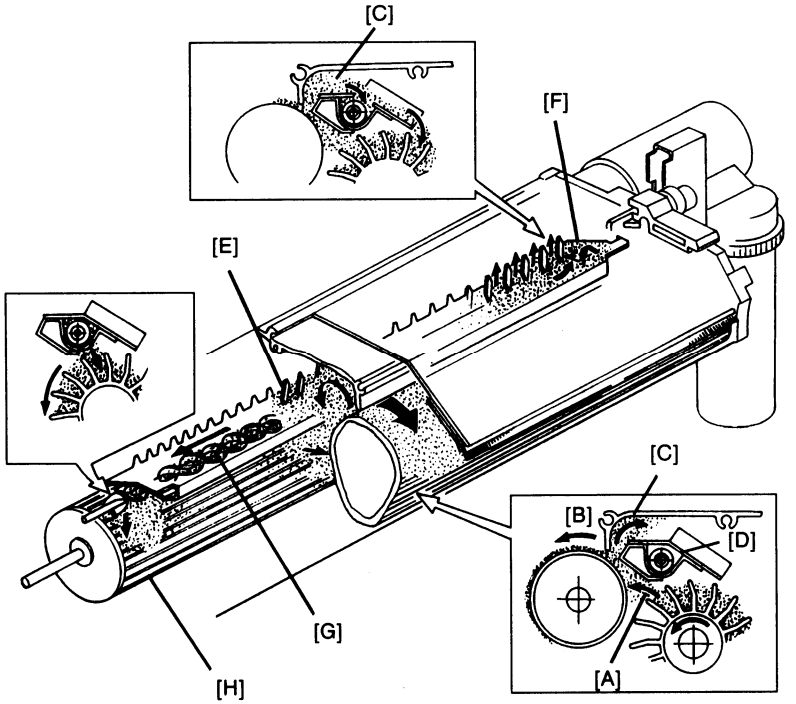
A: Development Drive Gear
B: Development Roller Gear
C: Idle Gear
D: Auger Gear

The gears of the development unit and the toner agitator gear are driven by the development drive gear [A] when the development motor turns. The rotation is transmitted as follows:

A → B → C → D

The development drive gear and development roller gear are helical gears. Helical gears are more quiet than normal gears. The teeth of the development drive gear are chamfered so that they smoothly engage with the development roller gear [B] when the unit is installed.

5.4 CROSSMIXING



The crossmixing mechanism has two functions: it keeps the toner and developer evenly mixed, and it helps to agitate the developer.

The developer that is attracted to the development roller at point [A] is split into two parts by the doctor blade. One part [B] (the magnetic brush) goes on to develop the latent image on the drum. However, the other part [C] is trimmed off by the doctor blade and directed to the backspill plate [D].

As the developer slides down the backspill plate to the paddle roller, it is moved slightly toward the front of the unit by the mixing vanes [E]. Part of the developer falls into the auger inlet [F] and is transported to the rear of the unit by the mixing auger [G], where it drops onto the paddle roller [H]. The amount of developer moved to the front by the mixing vanes and to the rear by the mixing auger is equal.

5.5 IMAGE DENSITY CONTROL

Image density is controlled in two ways: 1) by changing the strength of the bias voltage applied to the development roller sleeve, and 2) by changing the strength of the voltage applied to the exposure lamp.

Applying a bias voltage to the development sleeve reduces the potential between the development roller and the drum, which reduces the amount of toner transferred; so, the stronger the bias voltage, the lighter the copy image. Similarly, increasing the voltage to the exposure lamp causes an increase in light intensity, which also results in lighter copies.

The control method is different depending on whether the image density is selected manually or the automatic ID system is used.

Manual Image Density Control

DARK < ---------- > LIGHT

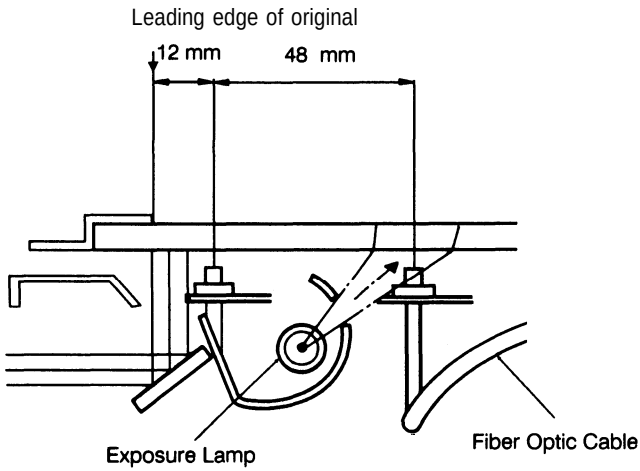
ID Level	1	2	3	4	5	6	7
V1: Bias	260	260	260	290	290	320	350
V2: Lamp Voltage	Vo-5	Vo-3.5	Vo-1	Vo	Vo+2.5	Vo+3.5	Vo+4.5

Vo = 50 to 80 volts ac

When image density is set manually, the development bias (base level) and the exposure lamp voltage vary as shown in the above table. The lamp voltage at ID level 4 (Vo) can be adjusted with SP mode #48.

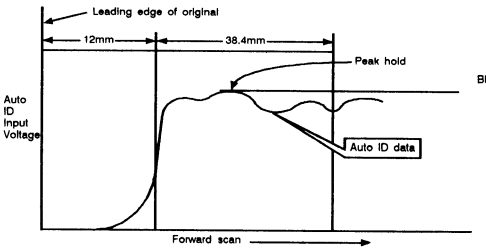
NOTE: In Auto ID mode, the lamp voltage remains at Vo (no compensation is applied).

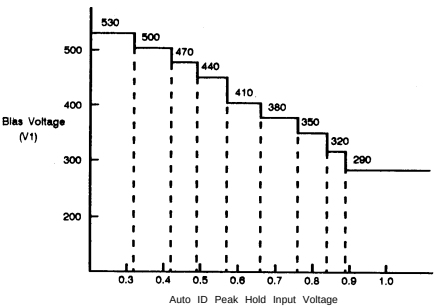
Auto Image Density Control



When automatic image density control is selected, the exposure lamp voltage is set at position 4. Image density is controlled only by changing the bias voltage.

At the start of the copy cycle the original sensing mechanism measures the background density of the original image. It does this by measuring the strength of the light reflected from a 48-mm strip. This strip starts 12 mm from the leading edge of the original. A fiber optic cable pipes the reflected light to a photodiode on the main board. The photodiode is the input element of the auto ID circuit.





The CPU checks the voltage output by the auto ID circuit. This circuit has a peak hold function. The peak hold voltage corresponds to the maximum reflectivity of the original. Based on the peak hold voltage, the CPU determines the proper bias base level and sends a 4-bit control signal to the power pack. The power pack then applies the proper bias to the development roller.

SP 56

A new function has been added to enable the service engineers to quickly adjust for ADS sensor discrepancies.

All ADS sensor functions are related to an ADS sensor value of 3.0 volts for white paper. Previously if this value was incorrect the ADS functions might not have worked properly and the variable resistor for the ADS sensor would have to be adjusted.

Now, using SP 56, a correction factor can be stored in memory so that if the ADS sensor voltage is slightly out, the variable resistor does not have to be adjusted. (See ADS Reference Voltage Setting.)

Bias Compensation Factors

As discussed previously, the bias base level is set either by the automatic image density system or by the operator through the image density keys. The CPU increases the base bias level as necessary to compensate for the rest time between copy runs and the drum temperature, both of which affect drum sensitivity.

1) Rest Time Compensation

10 - 20°C

	Copies				
	1	2	3	4-5	6-10
Rest Time					
0 - 3 min	Same as previous copy				
3 - 50 min	30	30	0	0	0
50 - 2 hr	30	30	30	0	0
> 2 hr	60	30	30	30	0

20 - 45°C

	Copies				
	1	2	3	4-5	6-10
Rest Time					
0 - 10 sec	Same as previous copy				
10 sec - 3 min	30	30	30	0	0
3 min - 50 min	60	60	30	30	0
50 min - 2 hr	90	60	60	30	30
> 2 hr	120	90	90	60	30

Note: Figures are in + Vdc.

The drum sensitivity often drops slightly over the first few cycles of a copy run. This is because the light from the exposure lamp fatigues the drum slightly, and it takes a few copies for the selenium to restabilize. The amount that the sensitivity drops depends on the rest time between copy runs (the longer the rest time, the greater the change).

The time at which each copy cycle is completed is stored in RAM. The CPU references this time data in RAM to determine the proper rest time bias compensation level for the next copy cycle even after the main switch has been turned OFF and ON after a copy cycle. For time data to be stored in RAM, the jumper connector on the timer PCB must be in the ON position.

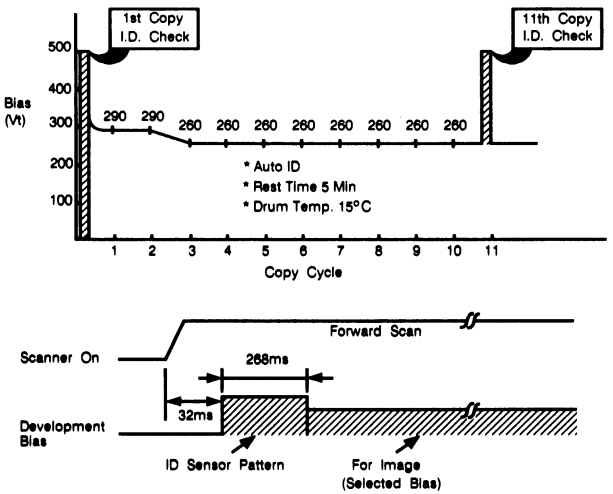
The copier increases the bias at the beginning of each copy run to prevent variations in the image density of the first few copies produced. The amount of bias increase is shown in the above table.

If the drum temperature is less than 10° Celsius, no rest time compensation is applied.

2) Drum Temperature Compensation

The CC/Bias power pack monitors drum temperature through a thermistor (TH-1), and it increases or decreases the bias voltage to compensate for variations in drum sensitivity that are induced by temperature changes in the drum cavity. At 30° Celcius (base temperature), no drum temperature compensation is performed. For each 1° C rise in drum temperature, the development bias is decreased 6V. For each 1° C fall in drum temperature, the development bias is increased 6V.

Bias For ID Sensing



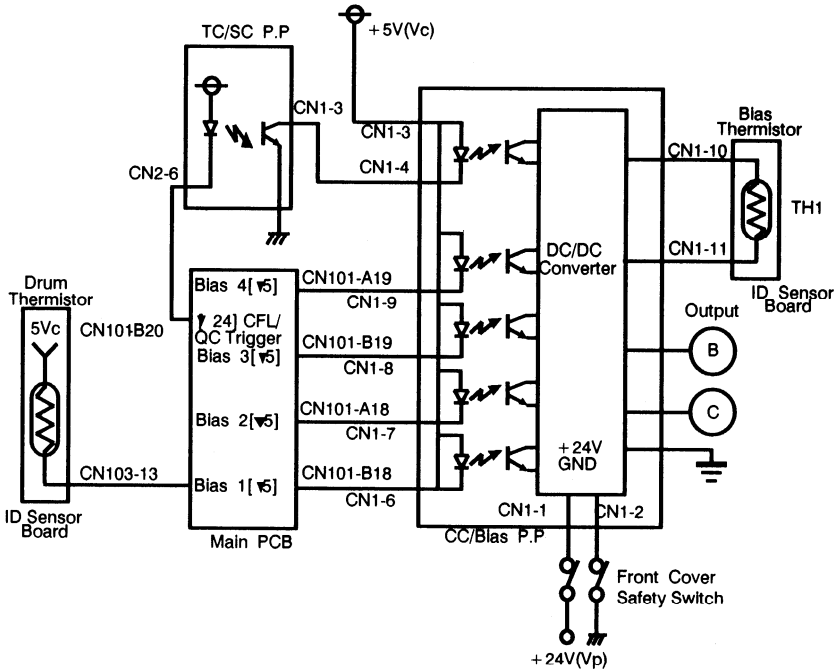
In order to develop the ID sensor pattern consistently, the CPU applies a fixed base bias level to the development roller at the beginning of the first copy after power-up, and then once every ten copy cycles. Fixed base bias is factory set at 500 volts dc (adjusted by SP #33). Compensation for drum cavity temperature and drum rest time is added to the fixed base bias.

The CPU applies the ID sensor fixed base bias to the development roller about 32 milliseconds after the scanner starts forward scan. Just after the sensor pattern is developed, the CPU changes the bias output to the level selected by the ID keys or auto ID system. The bias output remains at this level until the scanner starts the return scan.

Toner concentration can be increased or decreased by changing the ID fixed base bias. Higher fixed base bias will cause the sensor pattern to be developed lighter. The CPU then senses that the toner level is low and therefore adds more toner. This results in darker copies as toner concentration is increased.

SP #33	0	1	2	3
ID fixed base bias:	500	380	470	530

5.6 BIAS CONTROL CIRCUIT



The CPU sends a bias trigger signal through the TC/SC power pack to turn on the developer bias power pack. The main board also monitors the selected image density level and the copier rest time, and it sends a 4-bit bias output control signal to the bias power pack to control the bias output according to the image density level position and the copier's rest time. (See the table on the following page.)

After receiving the 4-bit signal, the power pack outputs the proper bias voltage. This voltage is further compensated by the bias thermistor on the ID sensor board.

The bias voltage is displayed on the guidance display with SP mode #59. The displayed value does not include the compensation factor of the bias thermistor (drum temperature compensation).

4-Bit Bias Control Signal

BIT 4	BIT 3	BIT 2	BIT 1	Bias Output
0	0	0	0	260
0	0	0	1	290
0	0	1	0	320
0	0	1	1	350
0	1	0	0	380
0	1	0	1	410
0	1	1	0	440
0	1	1	1	470
1	0	0	0	500
1	0	0	1	530
1	0	1	0	560
1	0	1	1	590
1	1	0	0	620
1	1	0	1	650
1	1	1	0	680
1	1	1	1	710

NOTE: SP34 shifts the bias under all conditions. There are three settings: 0, 60, and 120.

5.7 RELATED SERVICE CALL CONDITIONS

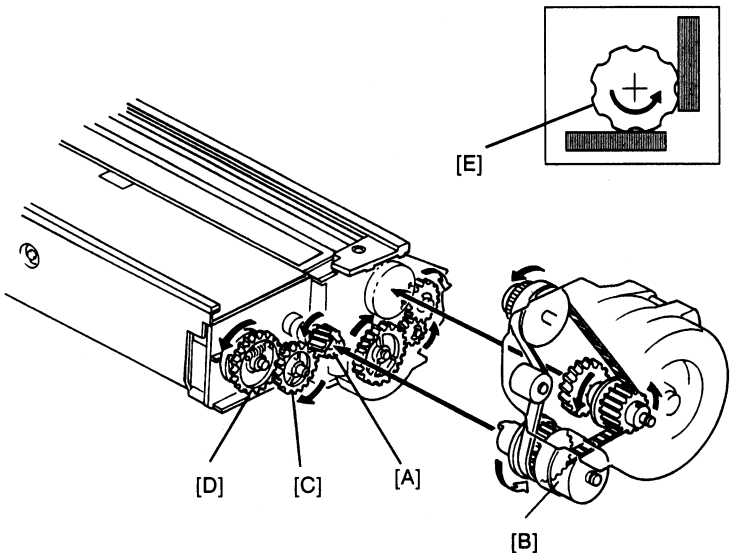
Code #31: Drum Thermistor Blown

Definition:
Lights when the drum thermistor circuit is open.

Points to Check:
Check the resistance between CN36-3 and CN36-D on the ID sensor board.
(Reference value: 10 kohms at 25°C)
Check CN103-13 on the main PCB.

6. TONER DENSITY DETECTION AND TONER SUPPLY

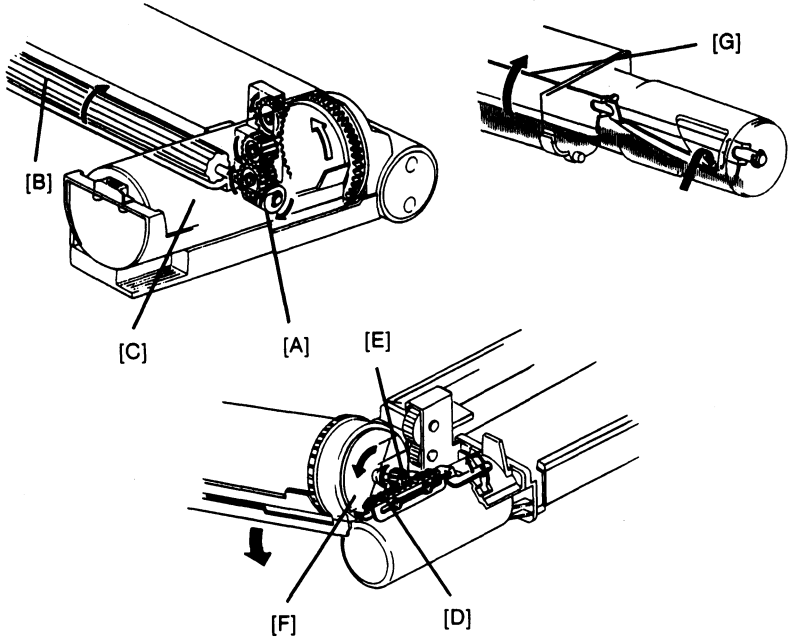
6.1 TONER SUPPLY



The toner supply drive gear [A] turns when the development motor is on. The toner supply clutch [B] applies the rotation from the toner supply drive gear to the toner supply roller gear [C], which drives the agitator gear [D]. Toner catches in the grooves on the toner supply roller [E]. Then, as the grooves turn past the opening, the toner drops into the development unit.

The teeth on both the toner supply drive gear and the toner supply roller gear are chamfered.

6.2 BOTTLE DRIVE MECHANISM



For easy access, the toner bottle is just inside the front cover. The bottle is positioned horizontally.

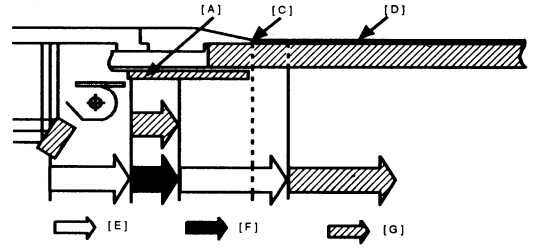
The bottle drive mechanism transports toner from the bottle to the toner tank. A worm gear [A] on the front end of the toner supply roller [B] drives this mechanism.

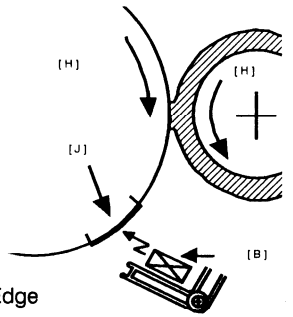
When the toner supply roller turns, the worm gear turns the toner bottle [C] via the worm wheel, the bottle drive gear, and the bottle gear. The toner bottle has a spiral groove that helps move toner to the toner inlet.

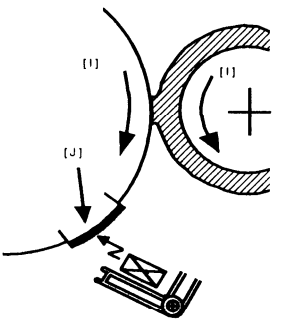
To prevent toner from scattering when the toner bottle is lowered, a rack [D] and pinion [E] system closes the toner shutter [F].

At the toner inlet section, the toner agitator [G] has a spiral shape to move the toner to the toner tank cavity.

6.3 TONER DENSITY DETECTION







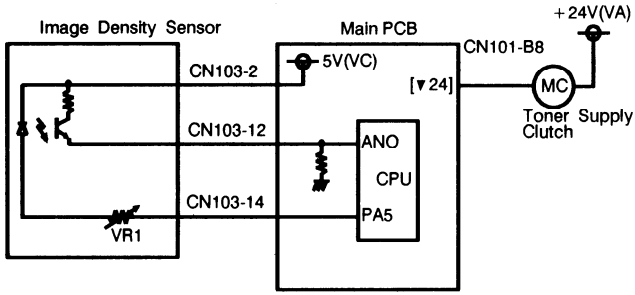
C: Original Lead Edge
D: Original
E: Full Erase
F: ID Check
G: Edge Erase (copy cycle)
H: Low Toner Condition
I: Enough Toner Condition
J: Sensor Pattern Image

The main CPU checks the image density of the sensor pattern at the beginning of the first copy cycle (after the main switch is turned on) and at every tenth copy cycle.

Alter the sensor pattern [A] is developed, the image density sensor [B] (a photosensor) checks its reflectivity. If the reflected light is too strong, the CPU determines that the toner density is too low. It then adds toner to the development unit.

Toner is not added all at once. The CPU energizes the toner supply clutch to add a selected amount of toner over the next 10 cycles.

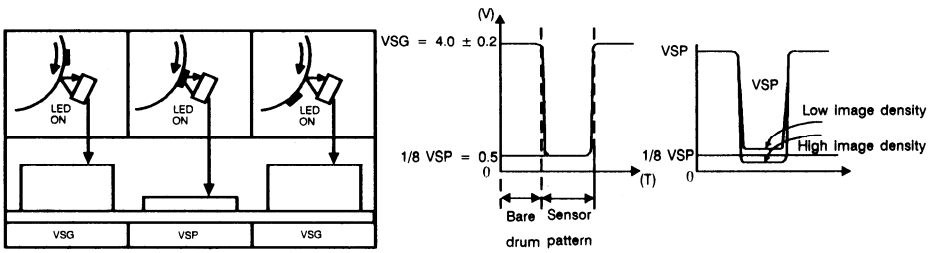
6.4 TONER DENSITY CONTROL



The image density sensor checks the density of the sensor pattern image once every 10 copy cycles. The CPU receives two voltage values directly from the sensor: the value for the bare drum (Vsg) and the value for the sensor pattern image (Vsp). These two values are then compared to determine whether or not more toner should be added.

1. Vsp ≤ 1/8 of Vsg ..... High image density (no toner added)

2. Vsp > 1/8 of Vsg . . . . . Low image density (toner is added)



When the image density is too low (Vsp > 1.5 volts), the CPU changes from the detect mode to fixed toner supply mode. It will be recovered when VSP becomes less than 1.5 volts automatically. If Vsg becomes less than 2.5 volts, the CPU determines that the sensed data is abnormal, then it stops any further toner supply to the development tank. However, toner supply is re-established if Vsg becomes greater than 2.5 volts. In either case the service call indicator will blink.

SP mode #54 turns on the LED sensor manually. VR1 on the ID sensor board adjusts the intensity of the sensor LED (the voltage of Vsg).

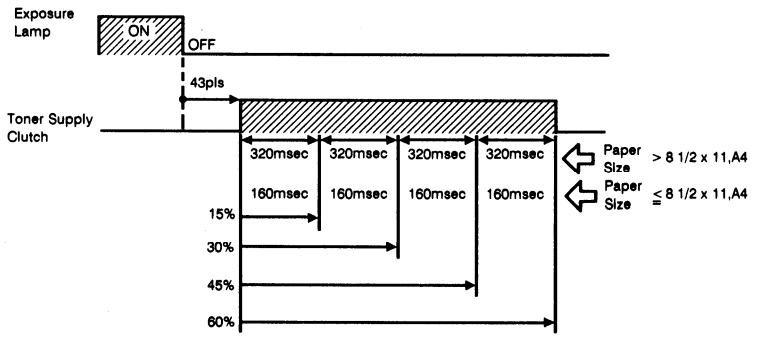
SP mode #55 displays Vsp and Vsg voltage values.

6.5 TONER SUPPLY AMOUNT

This copier has two different ways of controlling the amount of toner supplied. Normally, the detect supply mode system is used to control toner supply. However, a fixed supply system can also be selected using SP #30.

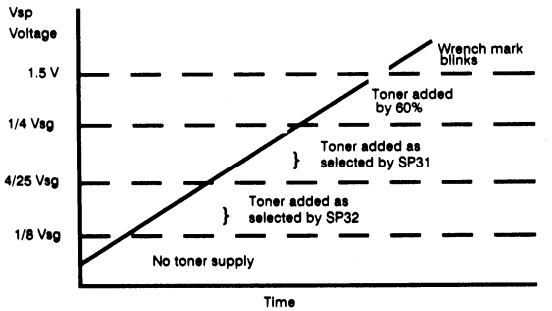
SP #30	0	1
Toner supply mode	Detect	Fixed

Toner supply starts 43 pulses after the exposure lamp turns off. Toner is supplied at this time to prevent toner scattering on the copies. The amount of toner added depends on the size of copy paper being used.



Detect Supply Mode

In the detect supply mode (SP#30 set to zero), when a low toner image density condition is detected (Vsp > 1/8 Vsg), toner is supplied during each copy cycle for the next ten copies as determined by SP #32 (toner supply amount -- fixed and detect modes). If Vsp becomes greater than 4/25 of Vsg, the CPU adds toner as determined by SP #31 (detect mode). If Vsp becomes greater than 1/4 of Vsg (Vsp > 1/4 Vsg), the toner supply amount changes to 60% regardless of those SP settings. If Vsp becomes greater than 1.5 volts and the CPU detects this condition 3 times, the wrench mark starts blinking on the operation panel board. The toner supply amount in this condition remains 60% of the detect toner supply mode.



SP #31	0	1	2	3
Toner Supply Amount	30%	15%	45%	60%

Note: Vsg = 4.0 volts
1/4 Vsg = 1.0 volts
4/25 Vsg = 0.64 volts
1/8 Vsg = 0.50 volts
3/8 Vsg = 1.5 volts

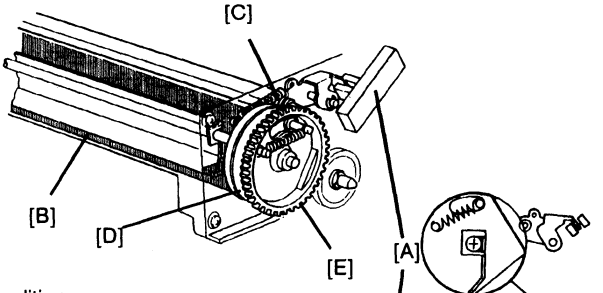
Fixed Supply Mode

In the fixed supply mode (SP #30 set to 1), a fixed amount of toner is added every copy as determined by the setting of SP #32. There is no overtoning detection mechanism.

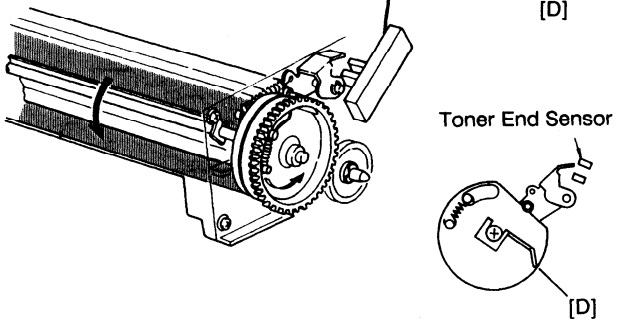
SP #32	0	1	2	3
Toner Supply Amount	7%	4%	11%	14%

6.6 TONER END DETECTION

Sufficient Toner Condition:



Toner End Condition:

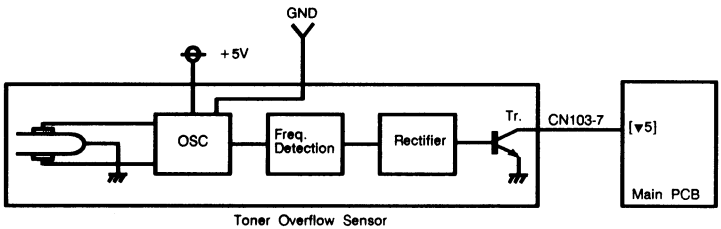


The toner end detection mechanism actuates the toner end sensor [A] when the toner tank is almost empty (60 to 100 grams remaining).

In the first figure, there is enough toner in the toner tank. The toner resists the movement of the toner agitator [B] and the drive spring [C] stretches. As a result the flat surface of the toner agitator cam [D] does not align with the flat section of the agitator gear [E], and the actuator is held in the toner end sensor slit.

The second figure shows what happens if there is not enough toner in the tank. In this case, the toner does not resist the movement of the agitator; therefore, the agitator gear spring forces the flat surface of the agitator drive cam to align with the flat surface of the toner agitator gear. When the flat section comes to the actuator, a spring pulls the actuator out of the toner end sensor and the sensor sends a toner end signal to the CPU. This starts the toner end run, which allows 50 copies to be made before the Start key turns red.

6.7 TONER OVERFLOW SENSOR CIRCUIT



The toner overflow sensor signals the CPU when the toner collection bottle is full.

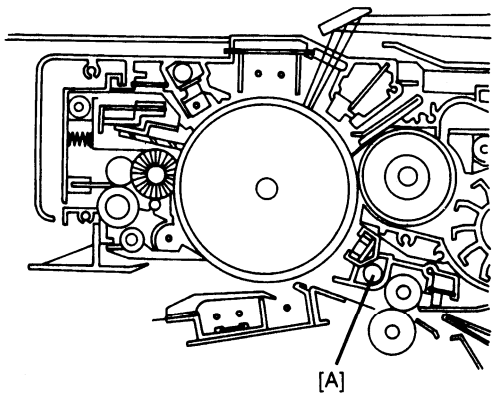
A tiny tuning fork is used as the sensing element for the toner overflow sensor. This tuning fork is a damping element in a multivibrator circuit. As long as there is nothing in contact with the tuning fork, the oscillating frequency of the circuit stays LOW and the transistor stays off.

When toner presses against the tuning fork, the resistance of the piezoelectric elements that are in contact with the tuning fork changes and the oscillating frequency increases. The frequency detection circuit passes the higher frequency signal to the rectifier which activates the switching transistor. The transistor sends a LOW signal to CN103-7 on the main board.

When the CPU receives this LOW signal, it signals the copier to stop, lights the Used Toner Bottle indicator, and blinks the Service Call indicator. Also, a message instructing the customer to call for service is displayed on the guidance display.

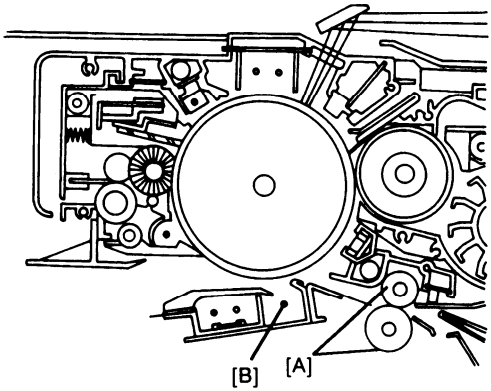
7. IMAGE TRANSFER AND PAPER SEPARATION

7.1 PRE-TRANSFER LAMP (PTL)



After the latent image is developed but before the image is transferred to the copy paper, the drum surface is illuminated by the pre-transfer lamp [A]. This illumination reduces the positive potential on the drum surface. This is to prevent the toner particles transferred to the paper surface from being reattracted to the positively charged drum during the paper separation process. It also makes image transfer and paper separation easier.

7.2 IMAGE TRANSFER



The registration rollers [A] feed the copy paper through the transfer entrance guide to the transfer section. A high positive voltage is applied to the transfer corona wire [B], and the corona wire generates positive ions. These positive ions are applied to the reverse side of the paper, and the paper is electrostatically attracted to the drum surface. This is due to the relationship between the following three attractive forces:

A1: Paper and Toner
The attraction between the positively charged paper [C] and the negatively charged toner.

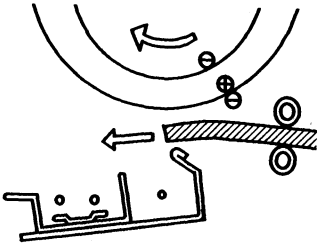
A2: Paper and Drum (Aluminum core)
The attraction between the positively charged paper and the negative countercharge on the aluminum core of the drum.

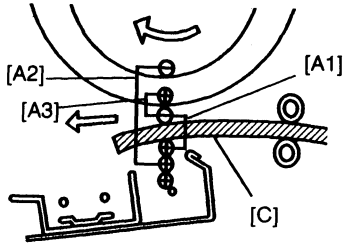
A3: Toner and Drum (Selenium layer)
The attraction between the positively charged drum and the negatively charged toner.

Since the positive force applied to the reverse side of the paper by the transfer corona is much greater than the strength of the positive ions on the drum surface, A1 is greater than A3, and A2 is greater than A3.

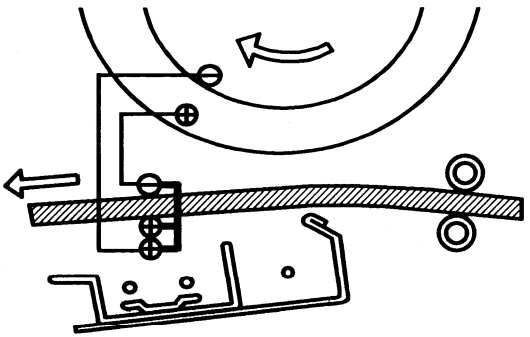
A1 > A3

A2 > A3 → Transfer occurs





7.3 PAPER SEPARATION

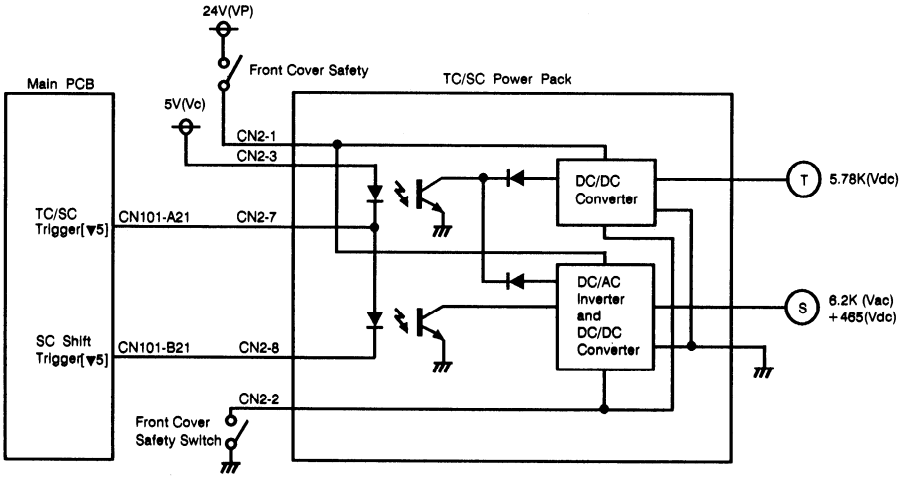


A1 > A2 > A3 –> Separation occurs

After image transfer, the paper is fed to the separation section. This process separates the paper from the drum while holding the toner on the paper surface.

Ac and dc currents are applied to the separation corona wire, and the corona wire generates ions. These positive ions are applied to the reverse side of the paper, breaking the attractive forces A2 and A3; however, A1 is not broken. The paper separates from the drum taking the toner with it.

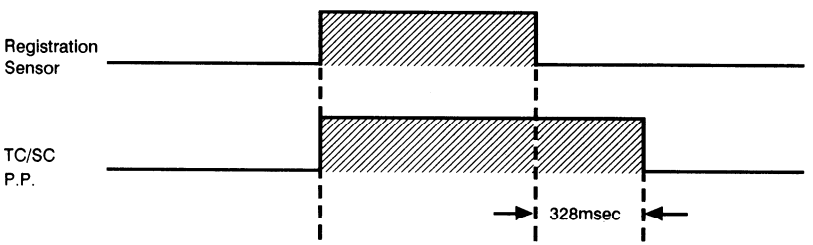
7.4 TRANSFER/SEPARATION CORONA POWER PACK



The power pack has a dc-to-dc converter and a dc-to-ac inverter.

The dc-to-dc converter changes +24 volts (Vp) to 5.78 kilovolts dc for the transfer corona. The inverter changes +24 volts (Vp) to 6.2 kilovolts ac with a slight negative dc bias for the separation corona. Both coronas turn on when the CPU applys a LOW at CN101-A21.

The main board sends a LOW trigger signal to the TC/SC power pack when the lead edge of the paper turns on the registration sensor. The TC/SC power pack turns off 328 milliseconds after the trailing edge of the copy paper deactuates the registration sensor.

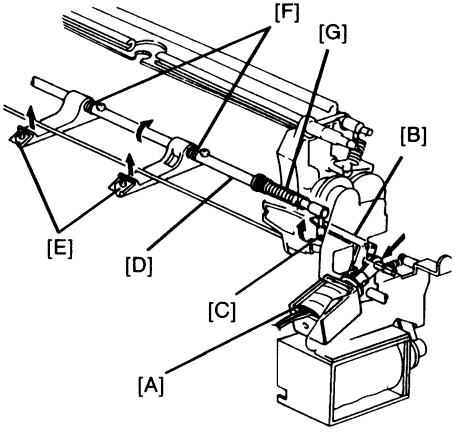


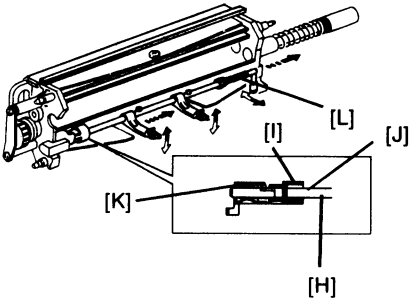
The separation corona current is not always constant. It has two levels--a lead edge level and the normal level. The normal separation corona current has an ac value of about 200 micro-amperes with little dc component. However, at the leading edge, the dc value is reduced from about -2.5 micro-amperes to a dc component of about -8 micro-amperes. This helps the leading edge of the paper separate from the drum. This is accomplished by the CPU supplying a LOW signal at CN101-21B to the TC/SC power pack. (The above values for the drum currents are theoretical calculations for total drum current.)

Normally, the lead edge separation corona current is applied to the first 10 millimeters of the copy paper. However, you can select a margin of 7 or 13 millimeters using SP mode #37.

#37	Margin
0	10 mm
1	7 mm
2	13 mm

7.5 PICK-OFF MECHANISM





Touch-and-Release Mechanism

The pick-off solenoid [A] energizes just after the registration rollers turn on. The pick-off lever [B] rotates counterclockwise (rear view) and pushes the pawl shaft pin [C]. The pawl shaft [D] then rotates clockwise and the pick-off pawls [E] touch the drum. The pawl springs [F] hold the pick-off pawls on the shaft and prevent them from touching the drum too strongly.

When the leading edge of the paper passes the pick-off area and just before it reaches the fusing unit, the pick-off solenoid turns off. The pick-off shaft spring [G] then rotates the pick-off lever and moves the pick-off pawls away from the drum.

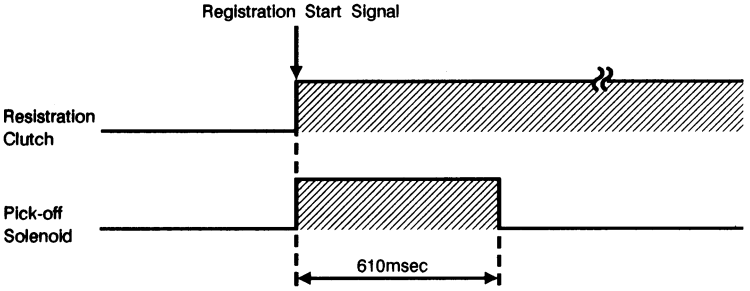
Side-to-Side Movement

The pick-off pawls do not always contact the drum in the same place but instead move slightly to the side on each copy cycle.

The pick-off pawl shaft [H] and the cam rider [I] are joined by a one-way bearing [J]. Each time the pick-off pawl solenoid turns on, the one-way bearing causes the cam rider to turn together with the pick-off pawl shaft. As the cam rider turns, it and the pawl shaft are forced to move laterally by a cam [K]. When the pawl shaft rotates the pawls away from the drum, however, the cam rider does not turn.

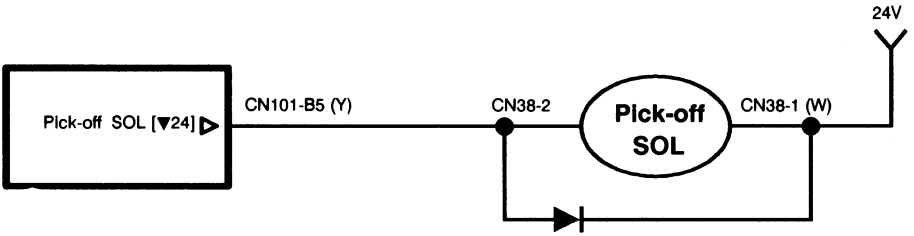
Pawl lateral movement is 0.1 to 0.2 millimeter per copy cycle. After moving about 8 millimeters, the cam rider passes the lobe of the cam and the pawl shaft is returned to its start position by the pawl shaft spring [G].

7.6 PICK-OFF TIMING

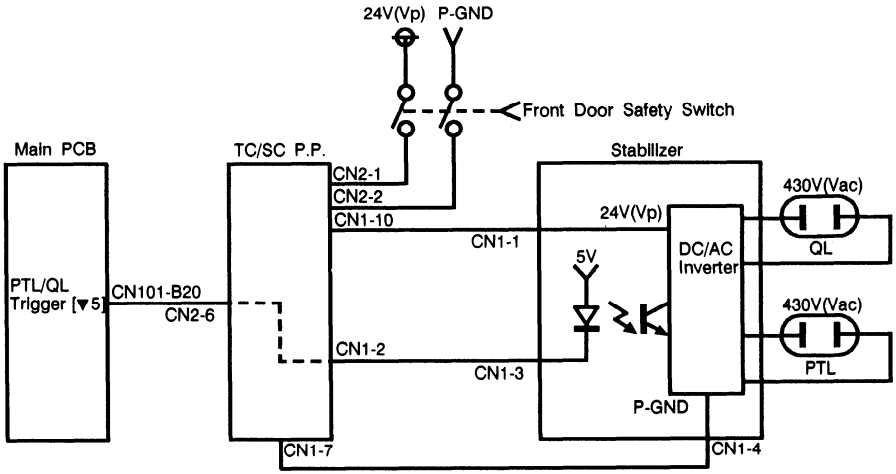


When the registration rollers start rotating, the CPU simultaneously supplies a LOW signal at CN101-B5. This LOW signal energizes the pick-off solenoid.

The CPU waits 610 milliseconds until the lead edge of the paper reaches the pick-off area before turning off the pick-off solenoid.



7.7 PRE-TRANSFER LAMP AND QUENCHING LAMP CIRCUIT

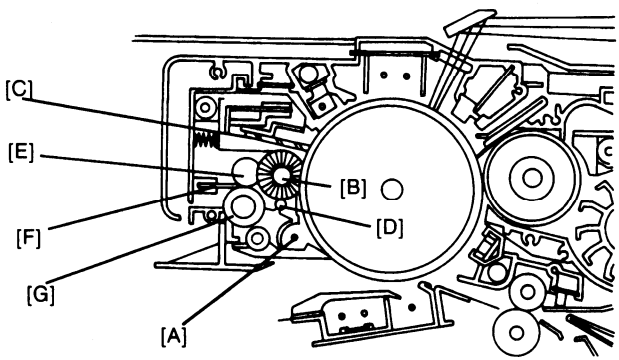


When the main motor is energized, the main board outputs a LOW signal at CN101-B20 to energize the stabilizer power pack. This LOW signal is routed through the TC/SC power pack to the stabilizer.

The stabilizer has a dc-to-ac inverter which changes +24 volts (Vp) to high voltage ac (approximately 430 volts ac).

8. DRUM CLEANING

8.1 OPERATION



Drum cleaning is accomplished by the pre-cleaning corona (PCC) [A], cleaning brush [B], and cleaning blade [C].

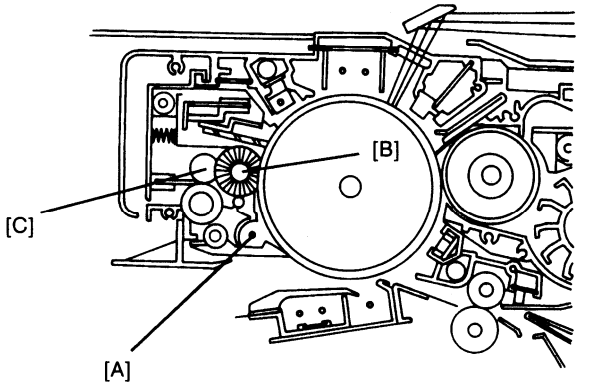
As the surface of the drum enters the cleaning unit, the PCC applies an ac charge. This loosens the toner on the drum.

In earlier models, the cleaning blade removed most of the toner, but in this model the cleaning brush removes the bulk of the toner (about 90%). This is because the brush uses electric potential as well as mechanical action to remove the toner. The cleaning brush has a positive charge that attracts the negative toner.

After picking up the toner, the cleaning brush turns inside the cleaning unit. Just inside the unit, it brushes against a beater bar [D]. The beater bar dislodges paper dust but is not effective in removing the negatively charged toner.

Next the cleaning brush brushes against the bias roller [E]. The bias roller, which has a charge of +300 volts, attracts the toner from the cleaning brush. The bias roller blade [F] scrapes the toner from the bias roller and the toner drops on the toner collection coil [G]. The cleaning blade removes the remaining toner (about 10%). The toner collection coil transports the used toner to the rear of the machine where it falls into the used toner bottle.

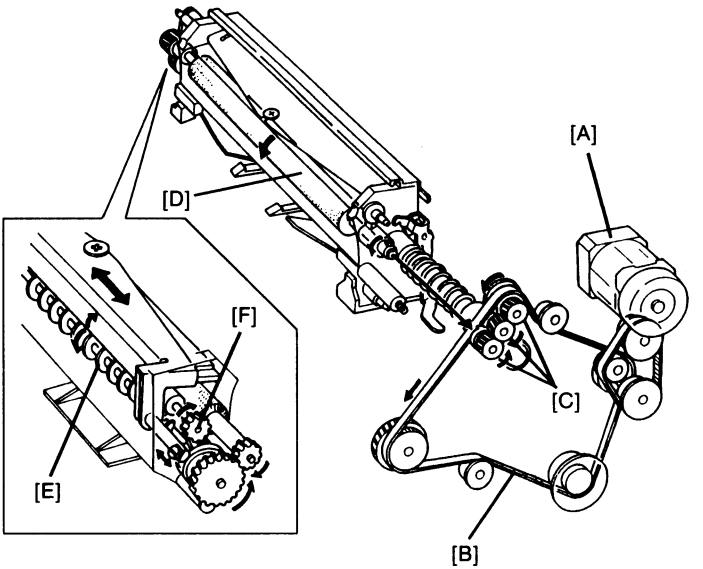
8.2 PRE-CLEANING CORONA AND BIAS ROLLER



The pre-cleaning corona [A] applies a negative charge to the drum and any toner remaining on the drum's surface using an ac voltage with a negative dc bias. A negative bias is used because toner more readily accepts a negative charge, and a negative charge is more stable than a positive charge.

The cleaning brush [B] is conductive and contacts both the drum and the bias roller [C] within the cleaning unit. The bias roller has a positive dc voltage (300 volts) applied to it. This enables the cleaning brush to remove toner from the drum efficiently and deposit it in the cleaning unit.

8.3 DRIVE MECHANISM

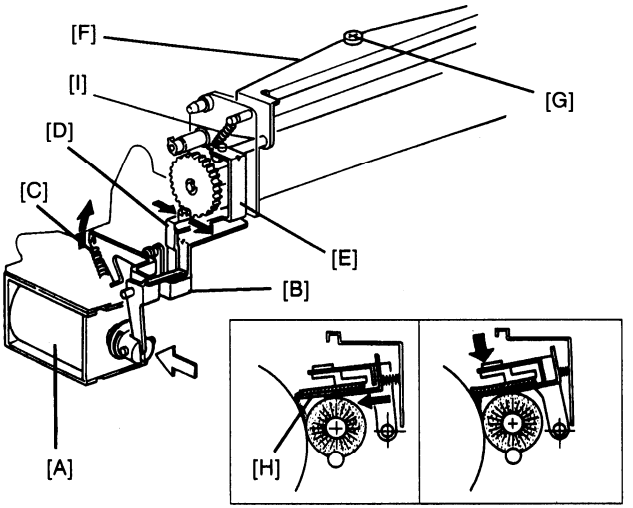


The cleaning unit is driven by the main motor. Mechanical drive is transmitted to each part as follows:

Main Motor [A] –> Registration Roller Drive Belt [B] –> Gears [C] –> Cleaning Brush [D] –> Toner Collection Coil [E] –> Bias Roller Gear [F]

A groove cam [G] inside the toner collection coil gear moves the cleaning blade from side to side as long as mechanical drive is applied. This loosens toner build-up between the cleaning blade and the drum.

8.4 CLEANING BLADE

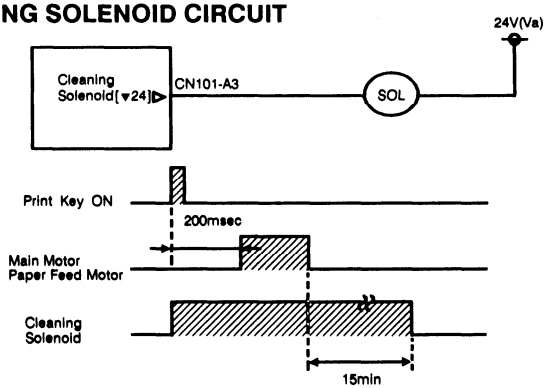


The cleaning pressure mechanism is shown above, When the cleaning solenoid [A] is energized, it turns the cleaning solenoid lever [B] clockwise (rear view). Due to the pull of the cleaning blade pressure spring [C], the pressure arm [D] also turns clockwise and pushes the cleaning blade lever [E] up. The cleaning blade holder then rotates and the cleaning blade [F] presses against the drum. Blade pressure is limited by the pressure spring [I].

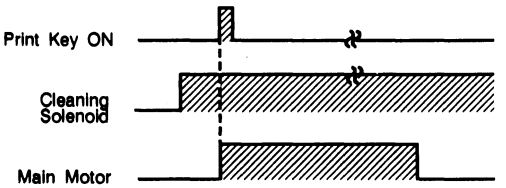
The cleaning blade is mounted on the blade bracket with a single swivel screw [G] at its exact center. With this type of mounting, the blade sets parallel and applies even pressure automatically. Also since pressure is transmitted to the center, a single pressure spring is used.

The blade scraper [H] is mounted in contact with the bottom side of the cleaning blade. When pressure is applied to the cleaning blade, it is forced forward and bends at its outer edge. When pressure is released from the blade, it snaps back to its original position. Simultaneously, the mylar of the blade scraper scrapes off the excess toner and paper dust from the edge of the blade. This helps to maintain efficient cleaning. The blade pressure is released when there is no key input for 15 minutes, 15 seconds after a paper misfeed occurs, or when the safety switches open. Also, the blade pressure is released for 1 second after every 100th copy. The blade scraper also prevents toner from scattering inside the copier by keeping toner inside the cleaning unit.

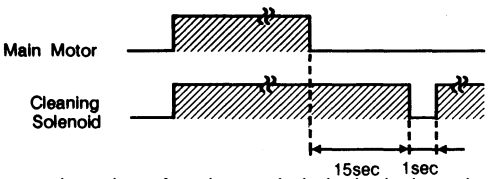
8.5 CLEANING SOLENOID CIRCUIT



When the Start key is pressed to start a copy cycle, the CPU outputs a LOW signal at CN101-A3 to energize the cleaning solenoid. The main motor and paper feed motor turn on 200 milliseconds later. The CPU then de-energizes the cleaning solenoid 15 minutes after the main motor is turned off. This delay decreases the amount of toner scattering which occurs when the blade is released too frequently.

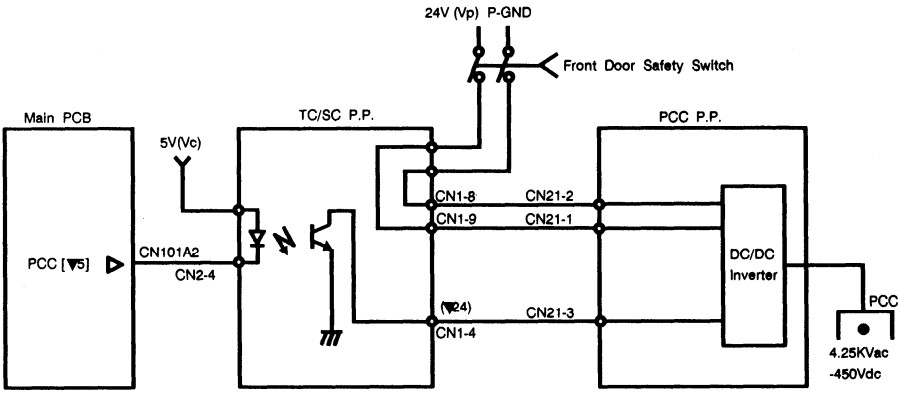


In cases where the copy cycle is initiated and the cleaning solenoid is already energized, the CPU turns on the main motor and paper feed motor immediately.



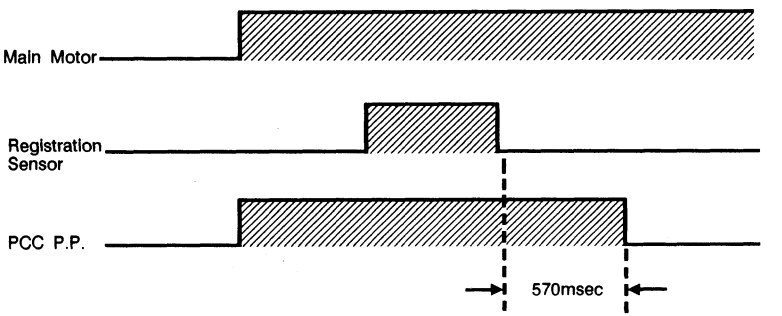
The CPU counts the total number of copies made in both single and multiple copy runs. After 100 copies, the cleaning solenoid de-energizes 15 seconds after the main motor stops. It re-energizes 1 second later. The cleaning solenoid also de-energizes 15 seconds after the front door is opened.

8.6 PRE-CLEANING CORONA CIRCUIT



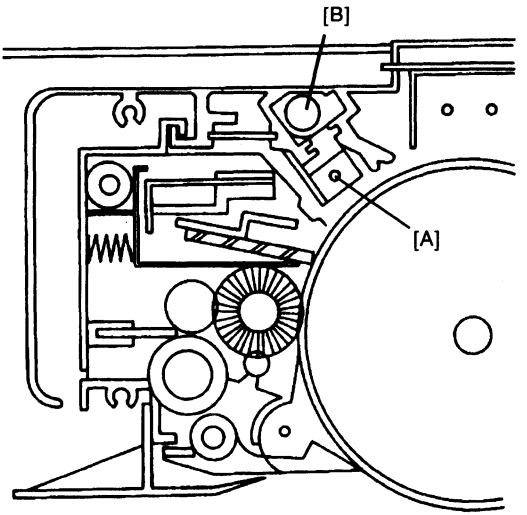
The PCC power pack receives 24 volts (Vp) from the TC/SC power pack. To energize the PCC power pack, the main board supplies a LOW signal at CN101-A2 to the PCC power pack through the TC/SC power pack, which in turn applies a LOW signal at CN1-4 to energize the PCC power pack.

The PCC power pack energizes at the same time that the main motor turns on and de-energizes 570 milliseconds after the registration sensor turns off.



9. QUENCHING

9.1 OPERATION

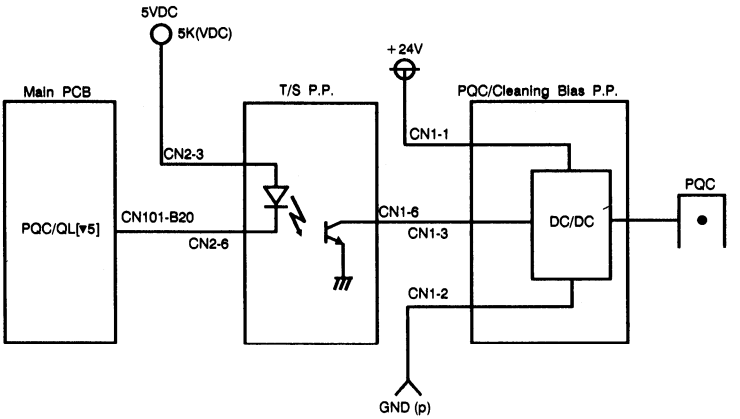


The pre-quenching corona (PQC) [A] applies a positive dc corona (5 kilovolts) to neutralize the negative charge remaining on the drum's surface from the pre-cleaning corona. Simultaneously, the quenching lamp [B] neutralizes any remaining positive charge on the drum. Both a lamp and a dc corona are required because the quenching lamp is less effective against negative charges than positive charges.

The quenching lamp also stabilizes the drum sensitivity from the first cycle by pre-illuminating the drum.

This machine uses a cold cathode lamp (sometimes called a cold fluorescent tube) as the quenching lamp. The cold cathode lamp (ac 430 volts, 1.3 watts) consumes less power, releases less heat, and is brighter. Also, its effective light is in the most sensitive range of the drum. A plastic filter prevents toner from being deposited on the lamp.

9.2 PRE-QUENCHING CORONA CIRCUIT

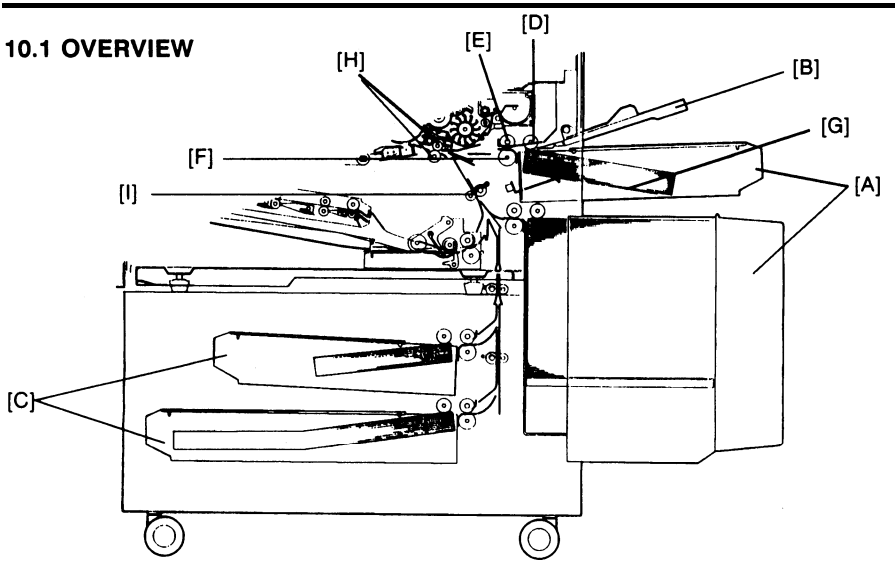


Circuit operation begins with the application of +24 volts to CN1-1 on the PQC power pack. This is the power source for the high-voltage (dc 5 kilovolts) corona.

When the Start key is pressed, the CPU energizes the PQC power pack through the TC/SC power pack by supplying a LOW at CN101-B20. This turns on the LED, and the phototransistor energizes the pre-quenching corona (PQC). The PQC turns off when the main motor is turned off.

10. PAPER FEED

10.1 OVERVIEW



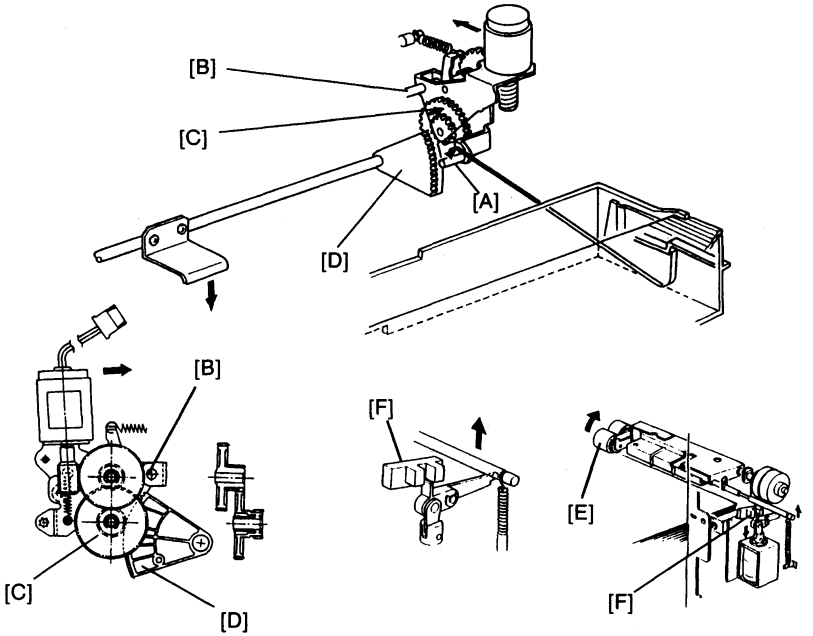
Paper feeds from either the first or second feed station [A] or from the manual feed table [B]. The capacity of each cassette is 500 sheets. One of the two optional large capacity trays (1,000 or 2,500 sheets) can be installed in the second feed station. Even more paper is provided with the cassette bank option. The cassette bank can hold a third and a fourth cassette [C]. These cassettes are the same as those of the first and second paper feed stations. The maximum paper capacity with both the cassette bank and the 2,500 sheet large capacity tray installed is 4,000 sheets.

This copier uses three rollers for paper feed: a pick-up roller [D], a feed roller [E], and a separation roller [F]. The bottom plate [G] inside the cassette is automatically lifted up when the cassette is inserted into the copier. It stops when the paper stack pushes up the pick-up roller.

Rotation of the pick-up roller drives the top sheet of paper from the cassette to the feed and the separation rollers. The feed and separation rollers then take over the paper drive. If more than one sheet is fed by the pick-up roller, the separation roller rotates in the opposite direction and prevents all but the top sheet from passing through to the registration/relay rollers.

The feed roller for the first paper feed station feeds the top sheet directly to the registration rollers [H]. The feed roller of the second feed station, however, feeds the top sheet to a set of relay rollers [I], which then feed the sheet to the registration rollers.

10.2 LIFT MECHANISM AND PAPER END DETECTION



When the cassette is inserted into the copier, the cassette actuator pin [A] is pushed down by the cassette. The lift motor unit then mechanically pivots clockwise at point [B] so that the lift gear [C] engages with the sector gear [D].

Simultaneously, the paper size actuator plate actuates the paper size sensor. The CPU then detects that a cassette has been inserted and turns on the lift motor. The lift motor raises the bottom plate until the top sheet pushes up the pick-up roller.

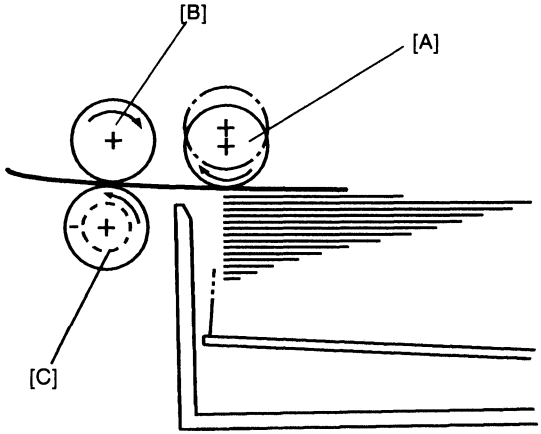
When the paper pushes up the pick-up roller [E], the lift sensor [F] is de-actuated and the CPU turns off the lift motor.

When the lift motor has turned on, the CPU allows 10 seconds for the lift sensor to deactuate. If the cassette is not inserted correctly, the lift sensor will not deactuate. If this occurs, the operator panel will display “Reload the Cassette.” This will increment both SP120 (total service calls) and SP121 (service call breakdown). Service codes for the cassettes are as follows:

Service Code	41	42	43	44
Cassette	1	2	3	4

As paper is fed into the copier, the level of the paper stack gets lower. If the level becomes too low, the lift sensor is actuated and the CPU energizes the lift motor until the top sheet raises the pick-up roller to deactuate the lift sensor again. This ensures that the paper is always at the correct feed height.

10.3 ROLLER FUNCTION



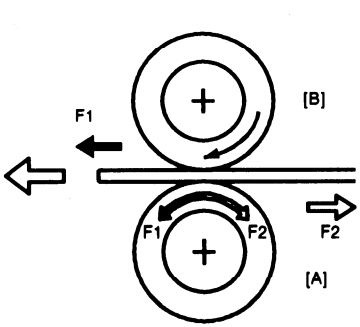
This copier uses an FRR (Feed + Reverse Roller) paper feed system with three rollers.

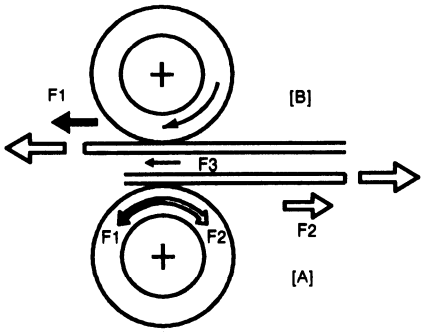
Pick-up Roller

The pick-up roller [A] rests on the paper stack until the start key is pressed.. A few moments after the Start key is pressed, the pick-up roller starts to rotate and feeds the top sheet between the feed roller [B] and the separation roller [C]. When the paper's leading edge reaches the feed roller, the pick-up roller lifts off the paper stack so that it does not interfere with the operation of the feed and separation rollers.

Feed and Separation Rollers

There is a one-way bearing inside the feed roller so it can turn only in one direction. The separation roller is driven in the opposite direction. The separation roller, however, is driven through a slip clutch (torque limiter clutch) which allows it to turn in either direction depending on the friction between the rollers. A spring keeps the separation roller in contact with the feed roller.

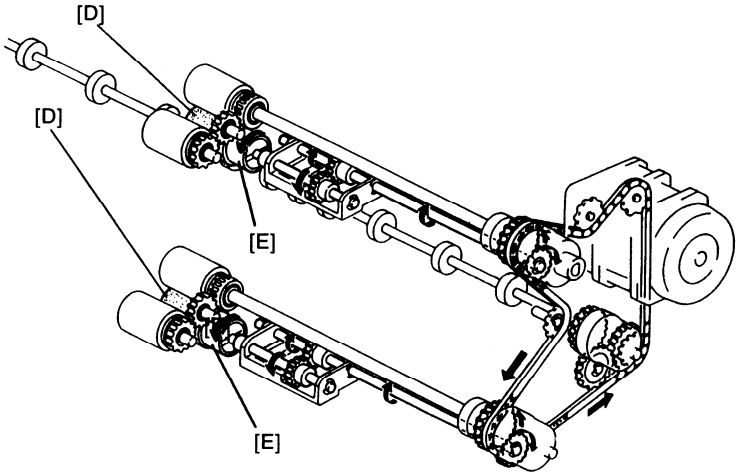




The direction that the separation roller [A] turns depends on the frictional forces acting on it. The slip clutch applies a constant clockwise force (F2). When there is a single sheet of paper being driven between the rollers, the force of friction between the feed roller [B] and the paper (F1) is greater than F2. So, the separation roller turns counterclockwise.

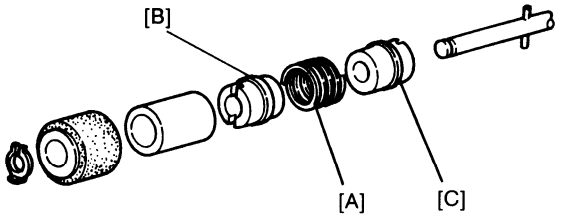
If two or more sheets are fed between the rollers, the forward force on the second sheet (F3), becomes less than F2 because the coefficient of friction between the two sheets is small. So, the separation roller starts turning clockwise and drives the second sheet back to the cassette.

10.4 SLIP CLUTCH MECHANISM



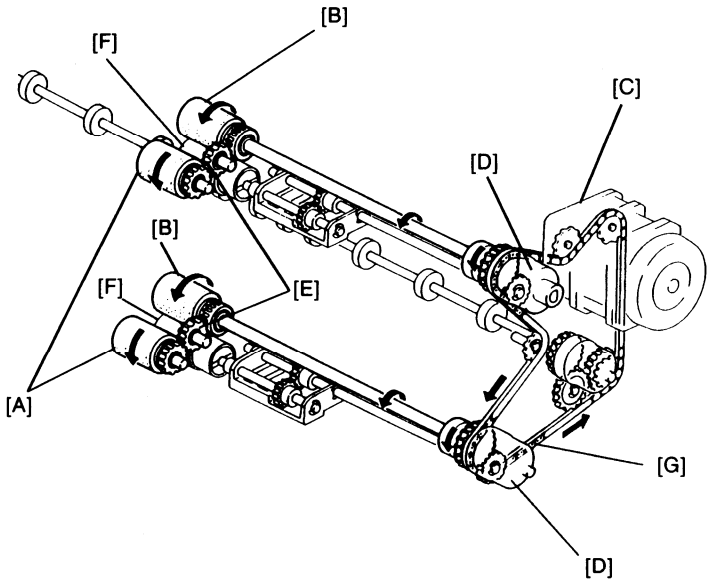
D: Separation Roller
E: Slip Clutch Cover

The slip clutch has two hubs connected by a drive spring [A]. The spring grips the output hub [B] tightly and grips the input hub [C] loosely. It will slip if the resistance to rotation is too great. The hubs and spring are precisely machined and slip when resistance to rotation exceeds F1.



10.5 PAPER FEED DRIVE

Roller Drive Mechanism



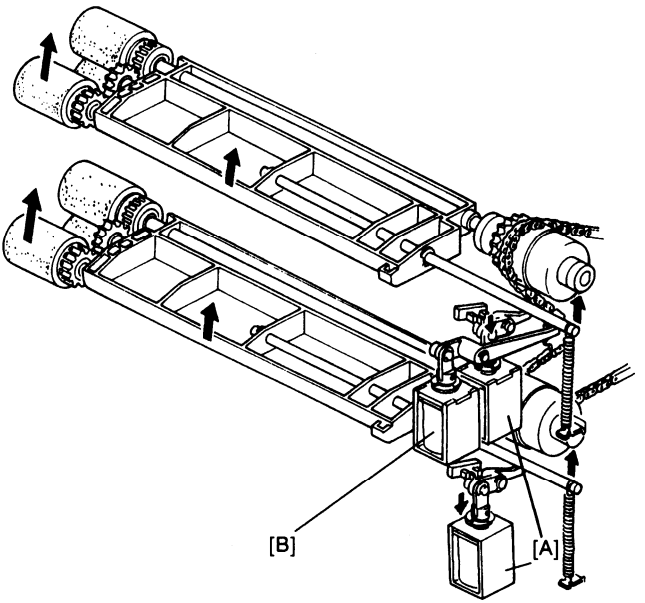
The pick-up rollers [A] and the feed rollers [B] are driven by the paper feed motor [C].

The main board sends a paper feed signal to the paper feed control board, which then energizes the paper feed clutch [D]. The clutch gear's rotation is then transferred to the feed roller shaft.

The pick-up roller rotates in the same direction as the feed roller. This is accomplished through an idle gear [E].

The paper feed motor, energized by the SSR PCB, drives the separation rollers [F] via the paper feed drive chain [G] and gears.

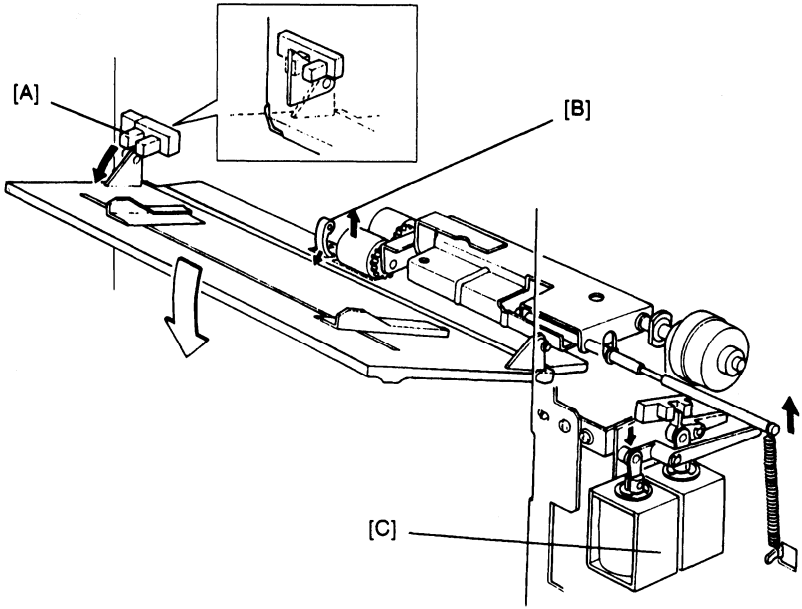
Pick-up Roller Up/Down Movement



The pick-up roller is raised by a solenoid. When the leading edge of the paper passes between the feed roller and separation roller, the CPU energizes the solenoid and the pick-up roller is lifted out of the paper path. This copier has three pick-up solenoids. Two solenoids [A] are used for the first and second cassette paper feed. The other solenoid [B] is used for manual paper feed. The lift timing of the upper and lower pick-up rollers is different.

After the trailing edge of the paper passes under the pick-up roller, the pick-up roller drops onto the paper stack in preparation for the next copy cycle.

10.6 MANUAL FEED



Detection

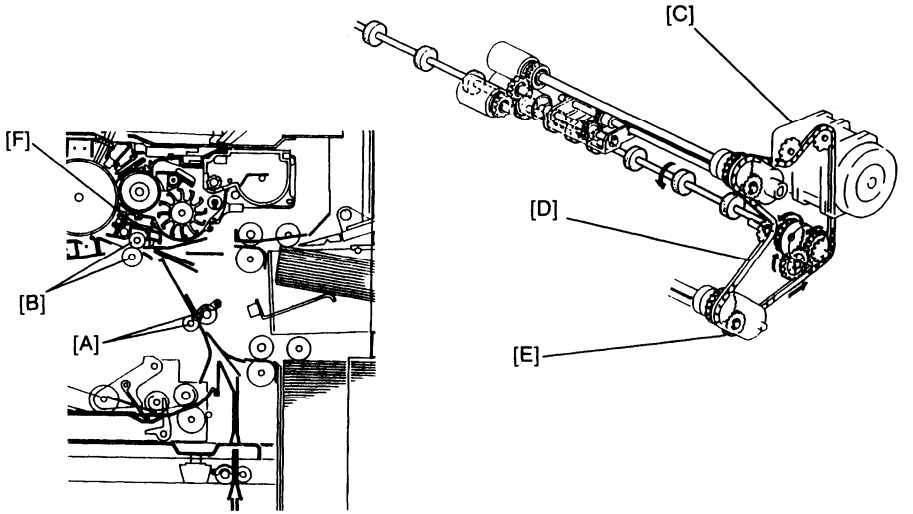
In manual feed mode, up to 20 sheets (normal weight) can be loaded on the manual feed table and fed into the copier without a cassette. Manual feed mode uses the rollers of the first feed station.

When the manual feed table is opened, the manual feed sensor [A] sends a low signal to the CPU. The CPU then shifts to manual feed mode. The actuator [B] of the first cassette paper end sensor stays in the same position, but the CPU detects a paper end condition in the manual feed table and lights the Add Paper indicator.

When paper is inserted into the manual feed table, the manual feed paper end sensor is actuated. The CPU then turns off the Add Paper indicator.

In manual feed mode, the manual feed solenoid [C] lifts the pick-up roller. This solenoid has a longer stroke because the pick-up roller must be lifted higher when the manual feed table is used.

10.7 RELAY FEED AND REGISTRATION



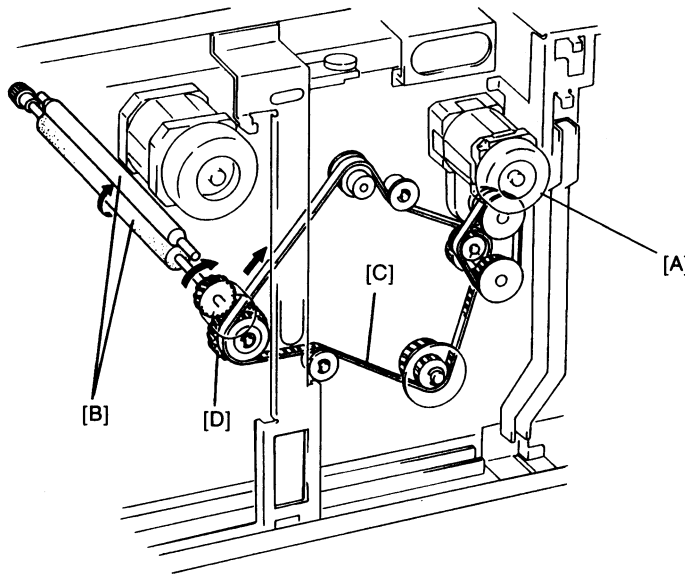
The relay rollers [A] and the registration rollers [B] feed paper from the second paper feed station to the transfer section. From the first paper feed station, paper is fed directly to the registration rollers and then on to the transfer section.

When feeding paper from the second cassette, the relay rollers take over the paper feed until the paper reaches the registration rollers.

The paper feed motor [C] drives the relay rollers via the paper feed chain [D], gears, and the relay roller clutch [E].

Skew Correction

The registration sensor [F] is positioned just before the registration rollers. When the sensor detects the leading edge of the copy paper a timer starts (84 milliseconds: first feed station, 40 milliseconds: second feed station). At the end of the timing period, the CPU turns off the first feed clutch or the relay feed clutch (second feed station). This delay allows time for the paper to press against the registration rollers and buckle slightly to correct skew.



Registration

The main motor [A] drives the registration rollers [B] via the main drive belt [C], gears, and the registration clutch [D].

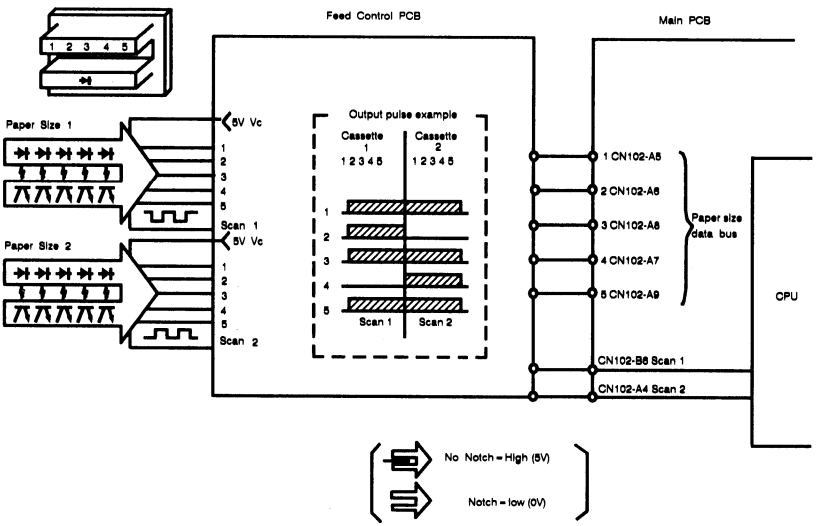
The CPU energizes the registration clutch when it receives a registration start signal from the optics board. The timing of this signal depends on the reproduction ratio, editing functions, and margin value. The paper is fed at the same speed as the drum (300 mm/s).

A paper dust cleaner is located at the center of the upper registration roller. This is in line with the feed rollers where most paper dust is generated.

Image Shift

If the margin adjustment mode is selected, the CPU changes the on timing of the registration clutch.

10.8 PAPER SIZE SENSORS

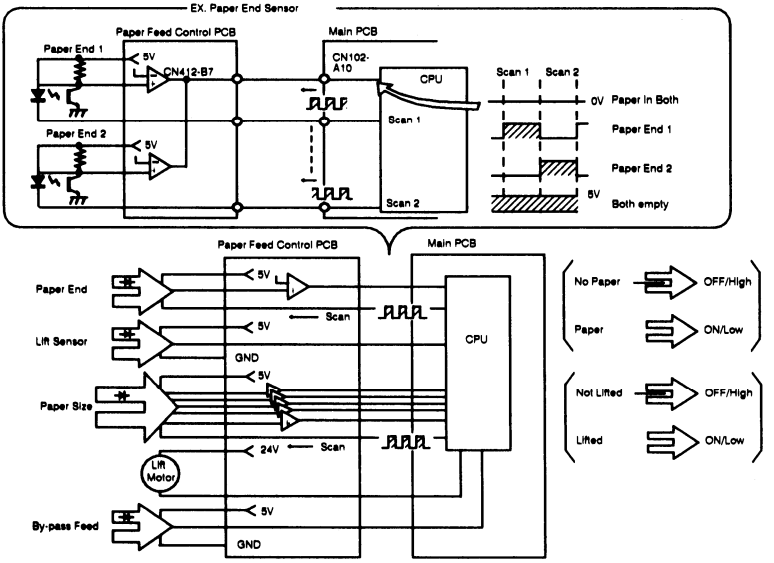


The CPU sends separate scan pulses (SCAN 1, 2, 3, and 4) to the corresponding sensors in each cassette. The output of this group of sensors for all cassettes can be monitored by one data bus because the scan pulses are sequential. This allows the CPU to determine which cassette the information comes from.

In the above diagram, two example actuator plates are shown for paper size sensors 1 and 2. The actuator plates in cassette 1 and cassette 2 have notches in the fourth and second positions respectively. The photointerrupters corresponding to the notches remain active (0 volts). Thus, when scan line 1 is high, bit 4 of the data bus remains LOW; when scan line 2 is high, bit 2 of the data bus remains LOW. The CPU monitors the data bus at the appropriate time to determine the paper size in cassettes 1 and 2.

10.9 LIFT MOTOR CONTROL AND PAPER END DETECTION

Lift Motor Control

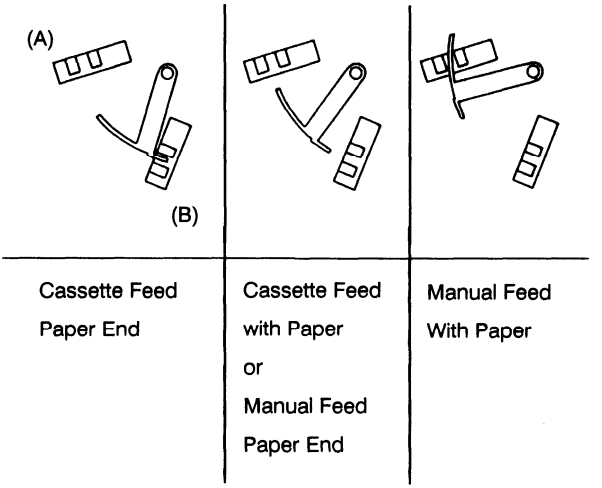


The paper size sensor is also used as a cassette set sensor. When the paper size actuator plate is inserted into the paper size sensor, one or more photointerrupters turn off (0 volts to 5 volts). After receiving a 5-volt signal through the paper size data bus, the CPU turns on the lift motor.

The CPU energizes the lift motor until the lift sensor is deactuated. When the lift sensor is deactuated, the photointerrupter is ON and its output drops from 5 volts to 0 volts. After receiving the 0 volt signal, the CPU turns off the lift motor.

Paper End Detection

After the last sheet of paper is fed from a cassette, the Add Paper indicator lights. The first and second paper end sensors use photointerruptors. When a sensor is actuated, the photointerrupter turns off (0 volts to 5 volts). The CPU detects paper end by monitoring the output of these sensors. The CPU uses scan pulses to monitor the output of these sensors and detect paper end.

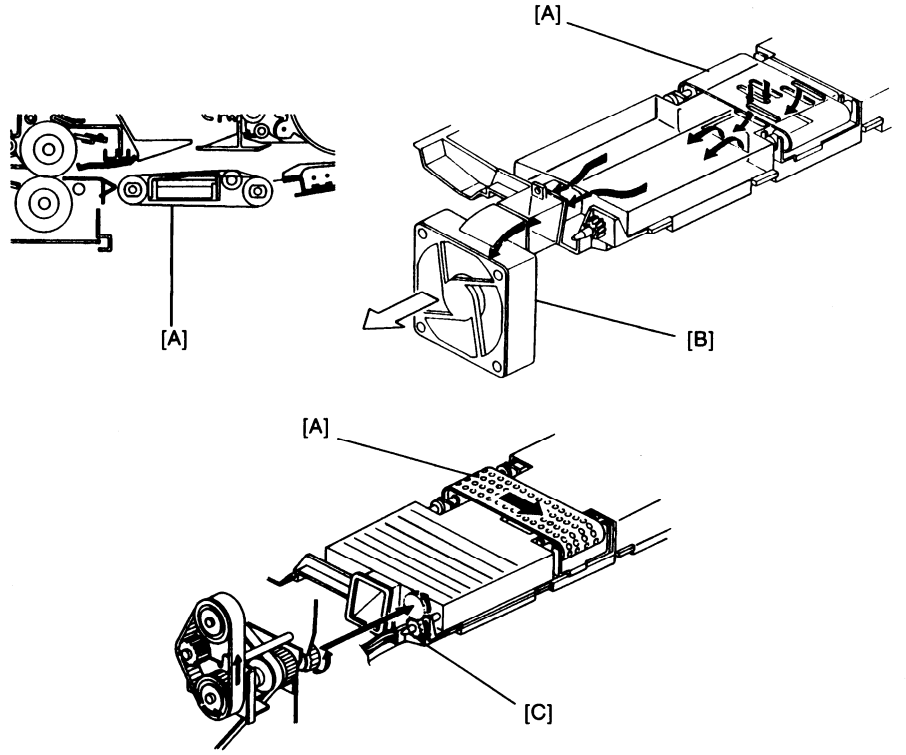


[A] Manual feed paper end sensor
[B] Cassette paper end sensor

The first paper end sensor consists of two photointerrupters, which are in parallel. The CPU detects a paper end condition by monitoring these two photointerrupters and the manual feed sensor.

11. PAPER TRANSPORT

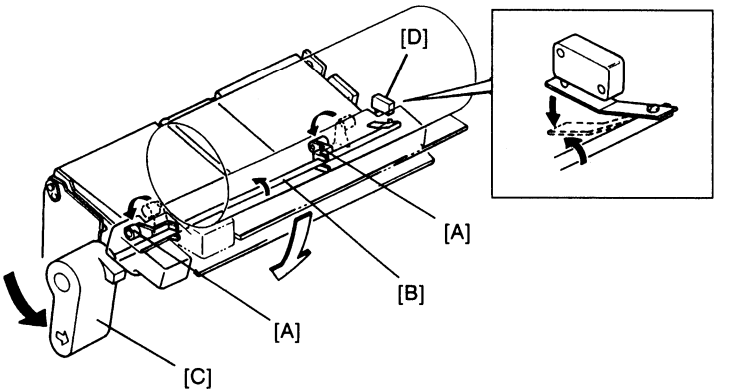
11.1 OVERVIEW



When the copy paper separates from the drum, it is advanced by the transport belt [A] to the fusing unit.

A vacuum fan [B] holds the paper firmly against the belt. The gear [C] drives the transport belt. There is no clutch, so the gear turns whenever the main motor is on.

11.2 TRANSPORT UNIT RELEASE MECHANISM



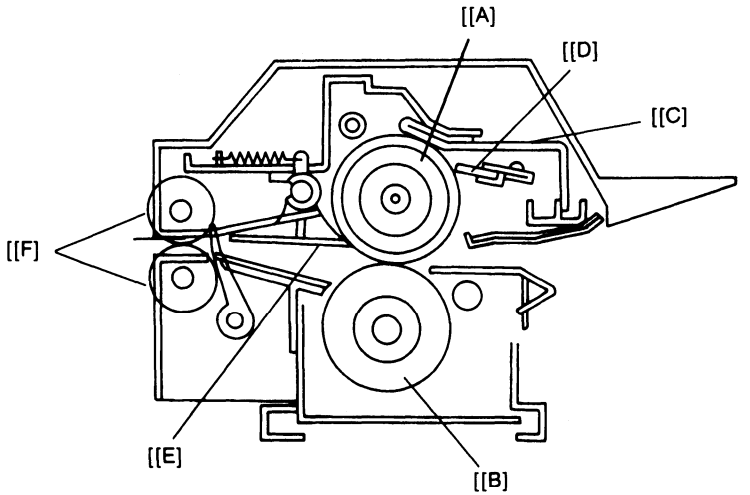
The transport unit can be lowered to remove misfeeds.

The transport unit is supported by two casters [A] which are mounted on the release shaft [B]. When the release lever [C] is pressed down, the casters turn to the left and the transport unit moves down.

The front cover can be closed while the transport unit is lowered. Whenever the transport unit is in the lowered position, the transport unit safety switch [D] is actuated. This causes the Close Cover indicator to remain lit and the Start key to stay red.

12. IMAGE FUSING AND PAPER EXIT

12.1 OVERVIEW



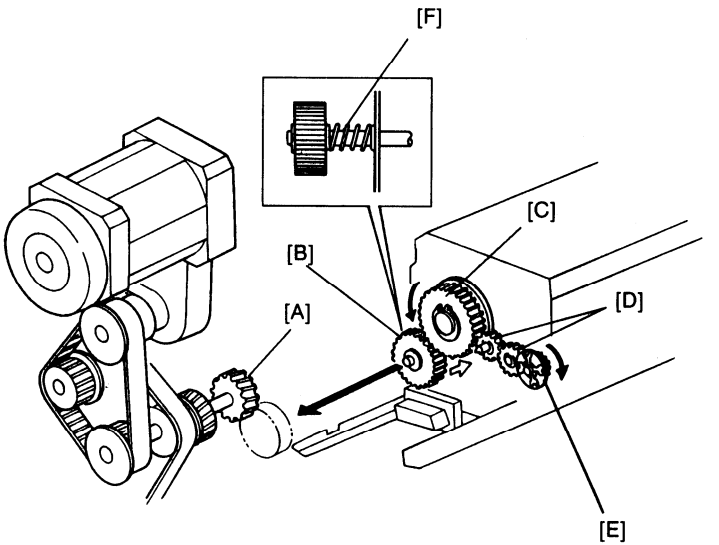
The image is fused to the copy paper by two rollers which apply heat and pressure. The hot roller [A] is made of teflon and the pressure roller [B] is made of silicone rubber but has a teflon tube coating. Pressure is constantly applied between the rollers.

The fusing lamp, which is located inside the hot roller, is turned on and off to maintain the operating temperature. The temperature control circuit monitors the hot roller surface temperature through a thermistor.

The oil supply pad [C] applies silicone oil to the hot roller. The oil blade [D] then spreads the oil evenly across the hot roller. The oil reduces the adhesion between paper and the hot roller (reducing misfeeds), reduces paper curl, and helps to keep the roller clean by reducing the amount of toner transferred to the hot roller surface. The oil supply pad also cleans the hot roller.

The hot roller strippers [E] separate the copy from the hot roller and direct it to the fusing exit rollers [F].

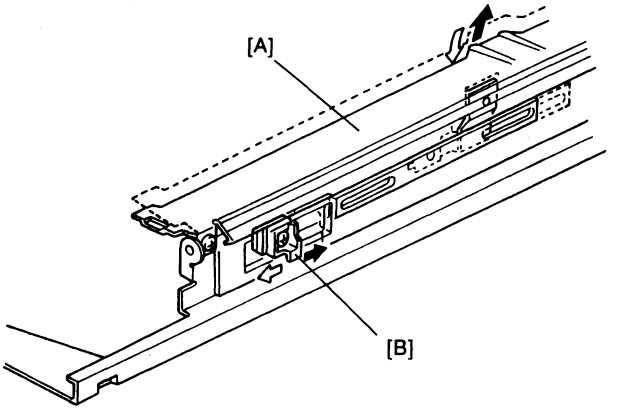
12.2 FUSING DRIVE MECHANISM



The fusing drive gear [A] turns the release gear [B] which drives the hot roller gear [C]. Rotation passes from the hot roller gear through two idle gears [D] to the exit roller drive gear [E]. The pressure roller is driven by the friction between the two fusing rollers.

The release gear spring [F] allows the release gear to move in and out. This prevents the gears from being damaged if they are not aligned correctly when the fusing unit is set. Also, by pulling on the fusing knob, the operator can disengage the release gear and the fusing drive gear to turn the fusing rollers and remove misfeeds.

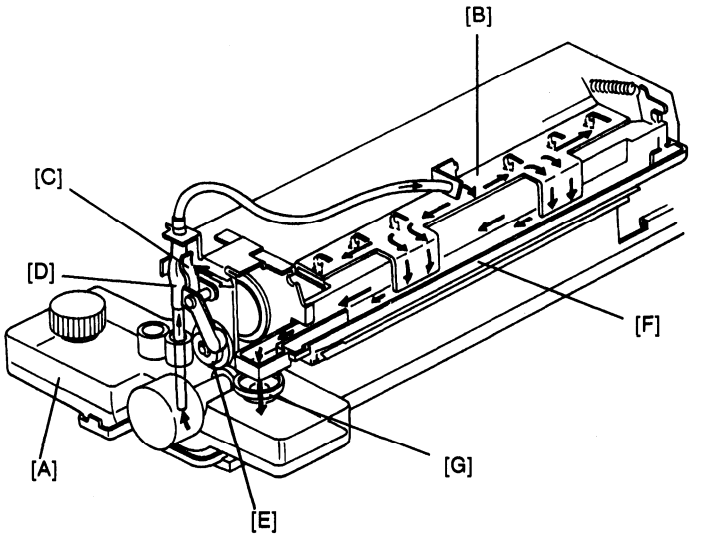
12.3 ENTRANCE GUIDE



The entrance guide [A] for this machine is adjustable for thick or thin paper. With thin paper, set the entrance guide in the upper position. This slightly lengthens the paper path which prevents the paper from creasing in the fusing unit. With thick paper, set the entrance guide in the lower position. This is because thick paper does not bend as easily, and is therefore less prone to creasing. Also, the lower setting allows more direct access to the gap between the fusing and pressure rollers. This prevents thick paper from buckling against the fusing roller, which can cause blurring at the leading edge of the copy).

The angle of the entrance guide can be adjusted using the knob [B] (about 1 mm of play) as shown by the arrows in the illustration.

12.4 OIL SUPPLY AND CLEANING



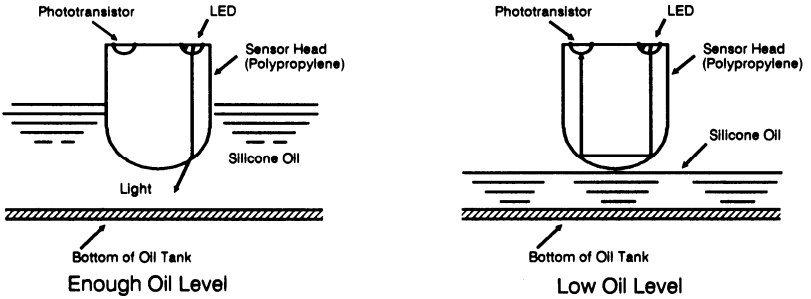
Silicone oil is applied to the hot roller to prevent toner and paper from sticking to the hot roller, to reduce paper curl, and to clean the roller.

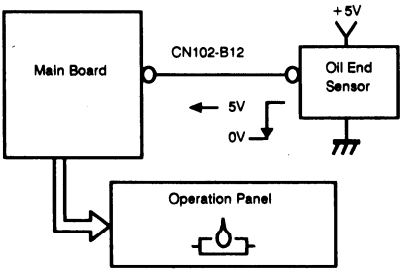
A small one-way-valve pump moves the oil from the oil tank [A] (capacity 360 cc) to the oil supply pad [B]. The oil pump lever [C] alternately presses and releases the rubber sleeve [D] between the valves as the oil cam [E] turns.

The oil supply pad then applies the oil to the hot roller as it turns. The oil blade spreads the oil on the hot roller evenly. Excess oil flows down the back of the oil supply pad to the oil sump [F]. Oil flows out through a hole [G] in the bottom of the oil sump and returns to the oil tank.

The oil supply pad both distributes oil to the hot roller and removes toner and foreign matter from the hot roller surface.

12.5 OIL END SENSOR



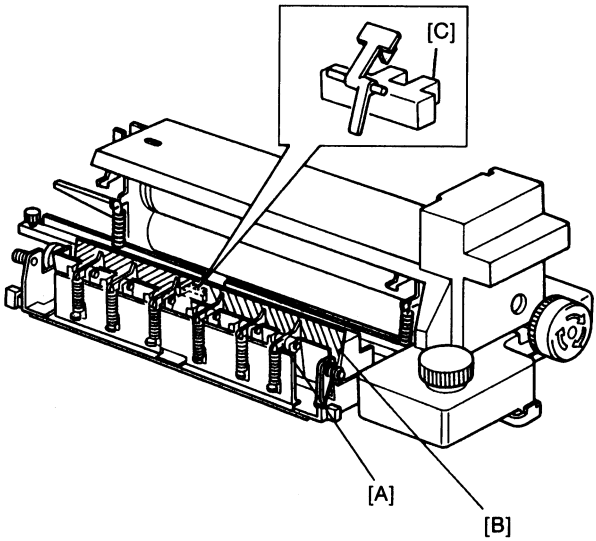


Oil end detection is based on the difference between the index of refraction of air and the index of refraction of silicone oil.

The index of refraction of silicone oil (1.40) is very near that of the sensor casing (1.49); so, the oil-casing interface has a very large critical angle. As a result, when oil covers the sensor, light from the LED is only refracted slightly at the boundary between the casing and the oil. The phototransistor stays off.

However, the index of refraction of air is much lower (1.00). So, the critical angle for the air-casing interface is much less than that of the oil-casing interface. Light from the LED strikes the air-casing interface at an angle greater than the critical angle. So, when oil runs out, light from the LED reflects instead of refracting and activates the phototransistor. This sends a LOW signal to the main board, which lights the Add Oil indicator and stops copier operation. The Start key turns red and displays Open Front Door and Add Oll on the guidance display.

12.6 FUSING EXIT ASSEMBLY

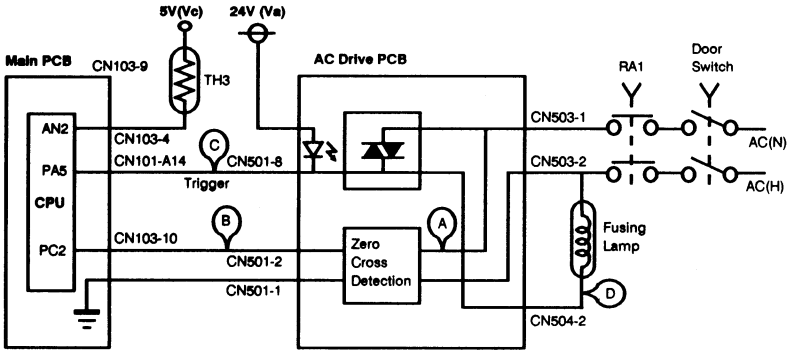


The fusing exit assembly includes the fusing roller strippers [A], the lower fusing exit guide [B], and the exit sensor [C].

The hot roller strippers prevent copy paper from wrapping around the hot roller. They slide between the paper and the roller and then direct the paper to the fusing exit rollers.

The lower fusing exit guide prevents the copy paper from wrapping around the pressure roller. Although the lower fusing exit guide does not touch the pressure roller, it catches the leading edge of the copy paper due to the face curl of the paper. (The face curl is caused by the pressure between the hot roller and silicone pressure roller.)

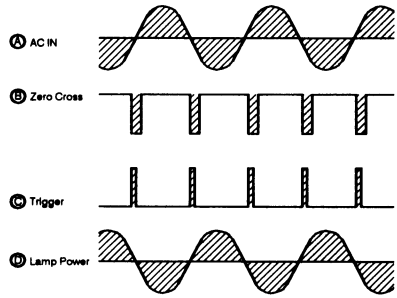
12.7 FUSING CONTROL



The main board monitors the fusing temperature through the fusing thermistor to control the fusing temperature. It also uses the zero-cross signal generated by the ac drive PCB to accurately control the applied power.

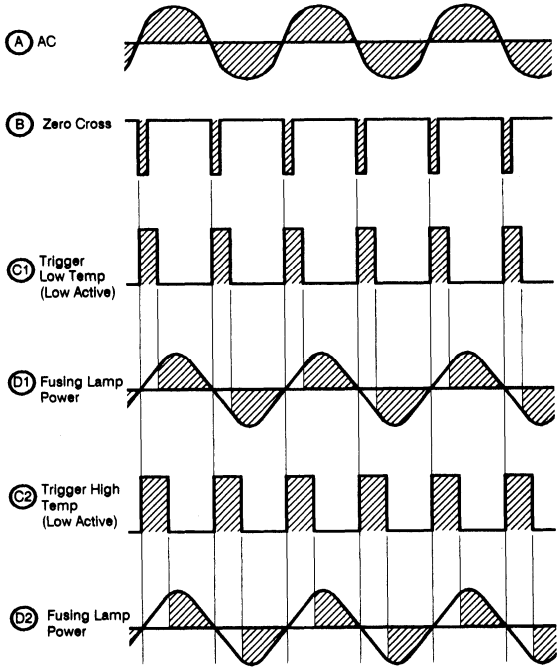
Normally, the voltage applied to the lamp is a full ac waveform. However, by removing jumper JP100 on the main board, fusing power is phase controlled. (Note: phase control should only be used if the customer has a problem with electrical noise or interference.)

Full AC Waveform



When the main switch is turned on, the main board outputs a trigger signal [C] to the ac drive PCB. This trigger signal has the same frequency as the zero-cross signal [B]. The trigger signal allows maximum ac power [D] to be applied to the fusing lamp. Then, when the operating temperature is reached, the CPU removes the trigger (HIGH) and the fusing lamp turns off.

Phase Control

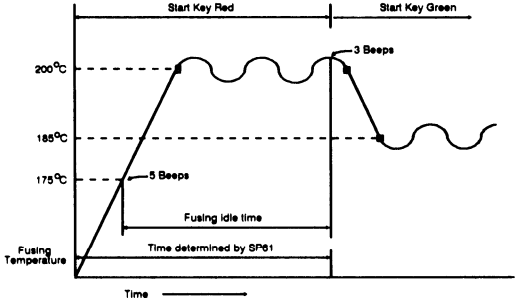


In the phase control mode, the fusing lamp receives ac power constantly. The amount of power is regulated by the width of the trigger pulse. The wider the trigger pulse (C1), the more ac power the lamp receives (D1); therefore, the temperature increases.

As the temperature rises, the LOW trigger pulse becomes narrower (C2) and less power is applied to the lamp (D2); therefore, the heating effect decreases.

Fusing Warm-up Cycle

- Fusing Temperature Below 100°C -

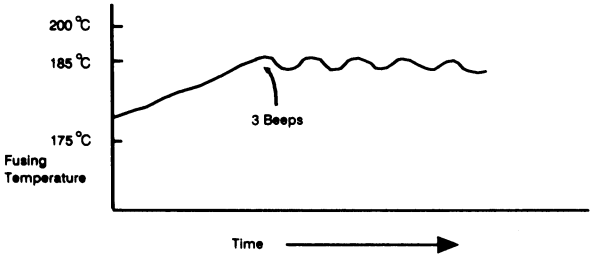


Normal fusing unit operating temperature is 185°C; however, if the temperature at power-up is below 100°C, the CPU goes into the idle mode. When the temperature reaches 175°C, the idling cycle begins. SP mode #61 selects the idling time. During idling, the control temperature is 200°C. When the idling time is finished, the control temperature is reduced to 185°C. The Start key stays red during idling.

Service Program SP 61 selects the total warm-up time as follows:

SP 61	Idle Time
0	5 minutes
1	10 minutes
2	15 minutes

- Fusing Temperature Above 100°C. -



If the fusing temperature is above 100°C at power-up, then fusing idle is not needed and the fusing lamp stays on until the temperature reaches 185°C.

Hot Roller Temperature

-- 220-240°C Upper Temperature Limit
If for any reason the hot roller temperature reaches the upper temperature limit, the fusing thermistor resistance will become so low that the CPU detects a thermistor short, resulting in a Call Service condition (Code "53"). This prevents the roller from being damaged.

-- 215-220°C Maximum overshoot must be less than this value.

-- 185°C Operating Temperature
During the "Ready" condition, the temperature is kept at this value.

-- 175°C Machine Idle Run
At this temperature, the caution beeper sounds five times. After 2 seconds, the machine starts to idle.

12.8 SERVICE CALL CONDITIONS

Code #52: Thermofuse Blown

Definition
Lights if the thermofuse circuit opens or the fusing unit is not set correctly.

Observation
Code #52 is displayed when the main switch is turned on.

Points to Check
Confirm that CN102-B19 on the main board is +24 volts.

Confirm that the fusing unit is properly set.

Code #53: Thermistor Blown

Definition
Lights if the fusing thermistor opens.

Observation
Code #53 is displayed when the main switch is turned on.

Points to Check
Disconnect the white thermistor connector on the front side of the fusing unit. Check the resistance of the thermistor at the white connector.
- Reference value: 1.10 kohms at 180°C 180 kohms at 10°C

Code #54: Ready Signal Not On

Definition
Lights if the idle signal is not received within 8 minutes after the power relay turns on.

Observation
The fusing lamp does not turn on. The ready beeper does not sound and code #54 is displayed 8 minutes after power is turned on.

Points to Check
Check the power relay, fusing lamp, ac drive board, and operation panel board.
To control effects of electrical noise from surrounding machines, try JP100.

Check for poor contact in the fusing unit connector.

Code #55: Fusing Overheat

Definition
Lights if the voltage at CN103-4 (fusing thermistor) drops below 0.53 V for 0.4 second.

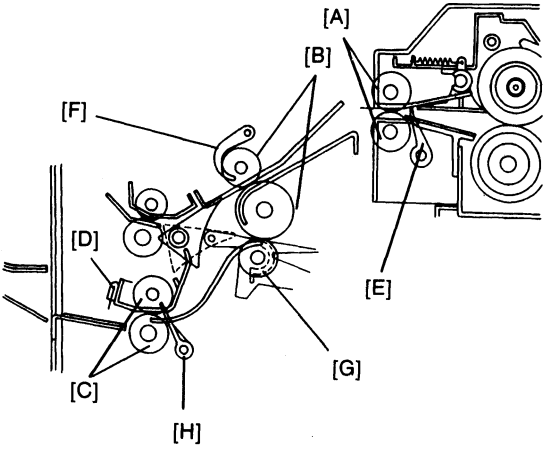
Observation
The fusing lamp stays on after the temperature rises above 220°C.

Points to Check
Check the voltage at CN504-1 on the ac drive board for line voltage.

Check the resistance of the thermistor.
- Disconnect the white thermistor connector on the front side of the fusing unit.
- Reference value: 1.10 kohms at 180°C 180 kohms at 10°C

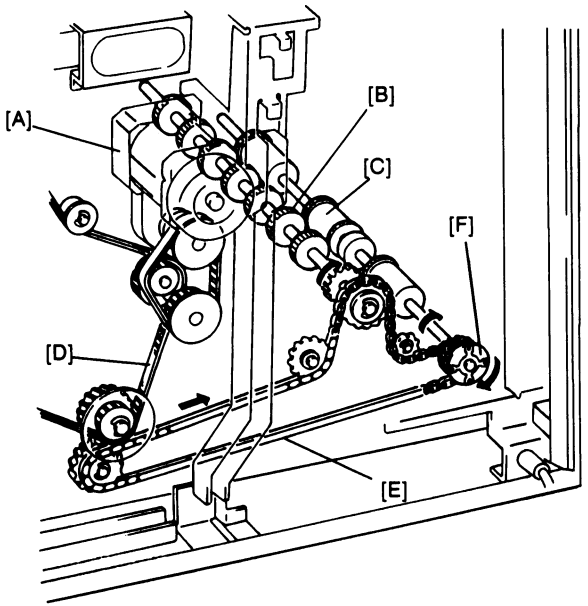
13. PAPER EXIT

13.1 OVERVIEW



After fusing, the copies are delivered to the copy tray through the fusing exit rollers [A], exit relay rollers [B], and the exit rollers [C]. An anti-static brush [D] removes static electricity from the copies as they leave the paper exit area. This improves paper stacking.

13.2 EXIT ROLLER DRIVE MECHANISM

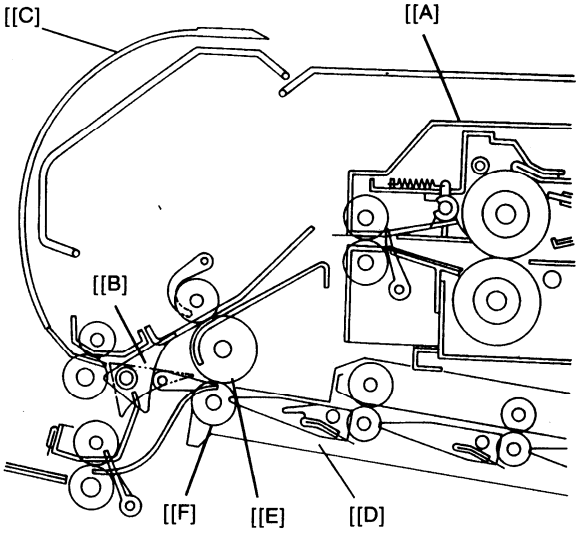


The main motor [A] drives the exit relay rollers [B] and exit rollers [C] through the timing belt [D] and the exit drive chain [E].

For safety purposes, the lower exit roller is driven through a slip clutch [F]. This slip clutch ensures that the roller turns when operating normally, but it slips when excessive force exists between the lower and upper exit rollers.

14. DUPLEX

14.1 INVERSION

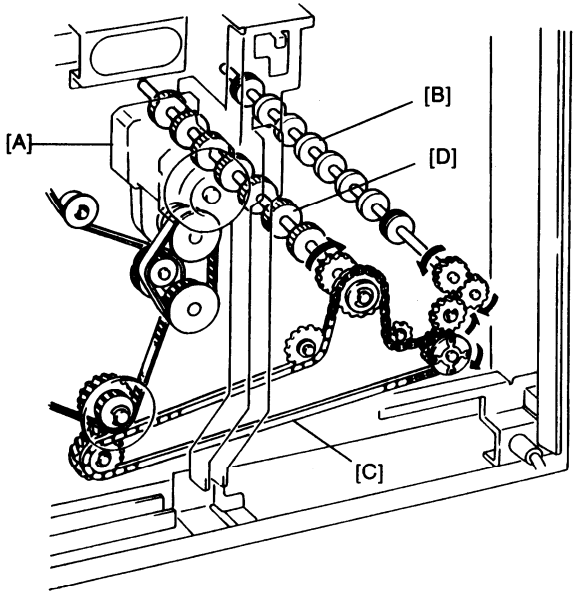


Operation

After passing through the fusing unit [A], copies come to the junction gate [B]. The junction gate is controlled by the junction gate solenoid.

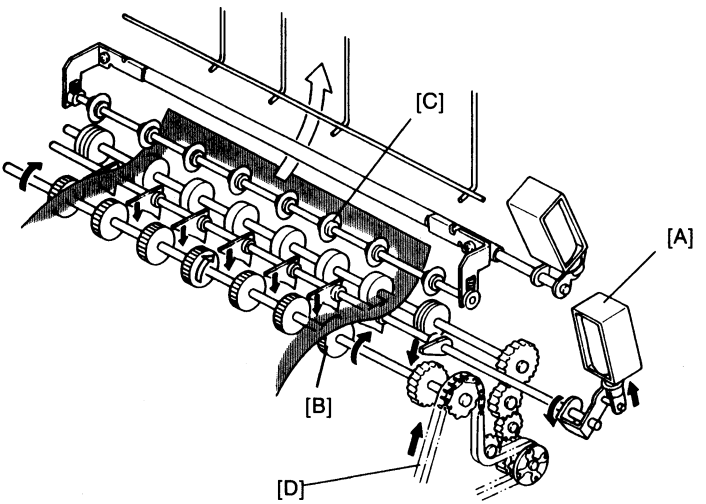
Single-sided copies pass under the junction gate and go straight to the paper exit. Duplex copies pass over the junction gate and enter the inverter unit [C]. Once the copy is in the inverter unit the feed direction is reversed, and the copy exits from the inverter unit via the fork gate unit [D] to the duplex tray.

Drive Mechanism



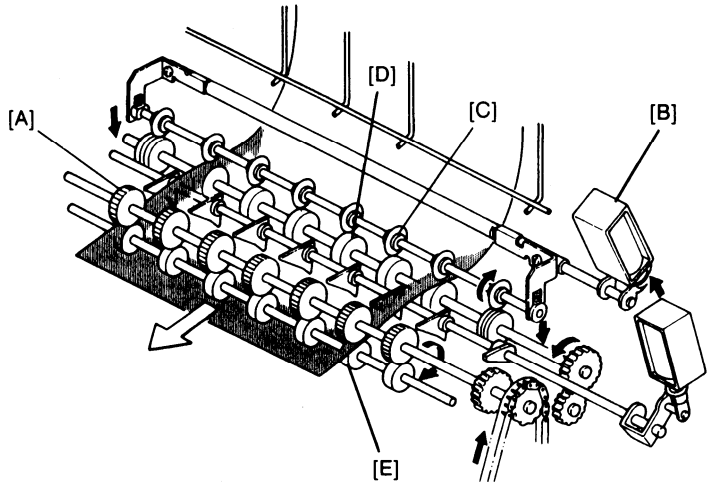
The main motor [A] drives the inverter rollers [B] via the exit drive chain [C]. The inverter rollers and the exit relay rollers [D] rotate in opposite directions.

- Forward Drive -



When the copy's leading edge passes the fusing exit sensor, the CPU energizes the junction gate solenoid [A]. The exit relay rollers [B] feed the copy into the inverter unit. The inverter pressure rollers [C] are in the upper position at this time. These rollers are driven via a gear train by the exit drive chain [D].

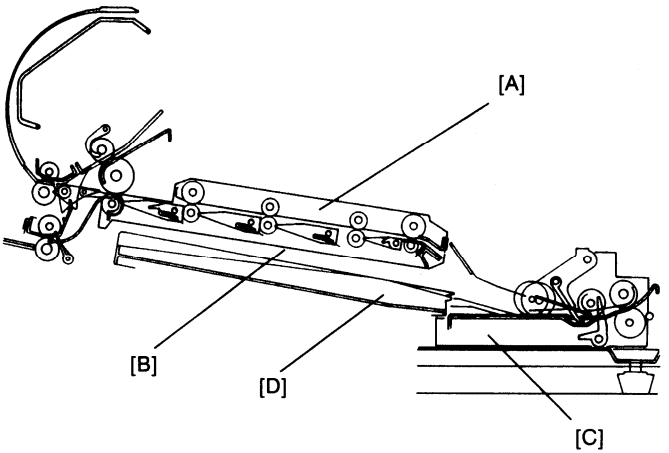
- Reverse Drive -



After the copy's trailing edge passes the exit relay sensor [A], the CPU energizes the inverter return solenoid [B] which lowers the inverter pressure rollers [C] onto the inverter roller [D]. Since the inverter rollers are always rotating (reverse direction), the feed direction is reversed. The inverter roller drives the copy between the exit relay rollers and the fork gate entrance rollers [E] which then feed the copy to the duplex transport unit.

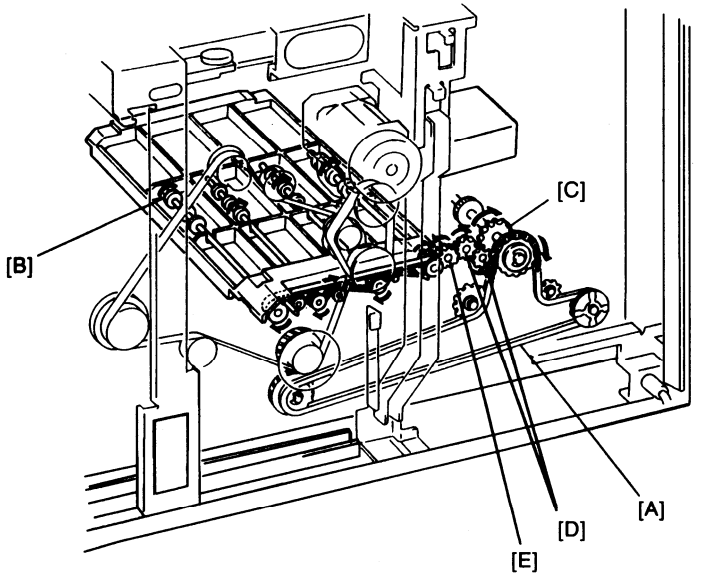
14.2 DUPLEX TRANSPORT

Basic Operation



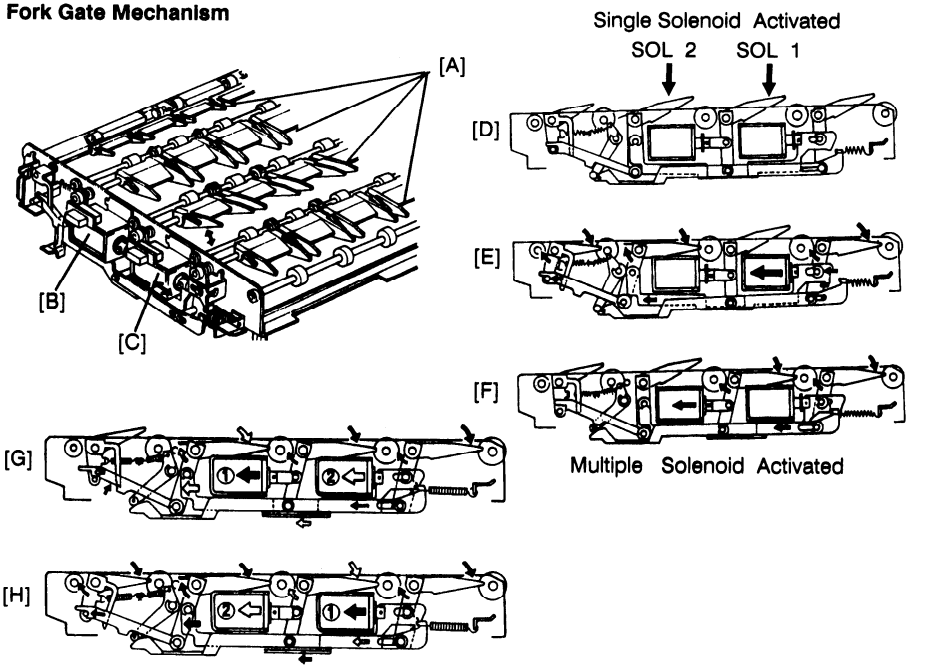
After the copy is reversed in the inverter unit, it comes to the duplex transport section. The duplex transport unit [A] carries the copy from the inverter unit to the appropriate gate in the fork gate unit [B]. The CPU opens the gate corresponding to the copy paper size. The copy paper passes through the gate and is transported to the jogger unit [C] by the duplex delivery tray {D].

Drive Mechanism



The exit drive chain [A] powers the duplex transport rollers [B]. Power is transferred from the chain through the exit relay roller gear [C] and two idle gears [D] to the drive gear [E] of the left duplex transport roller.

Fork Gate Mechanism



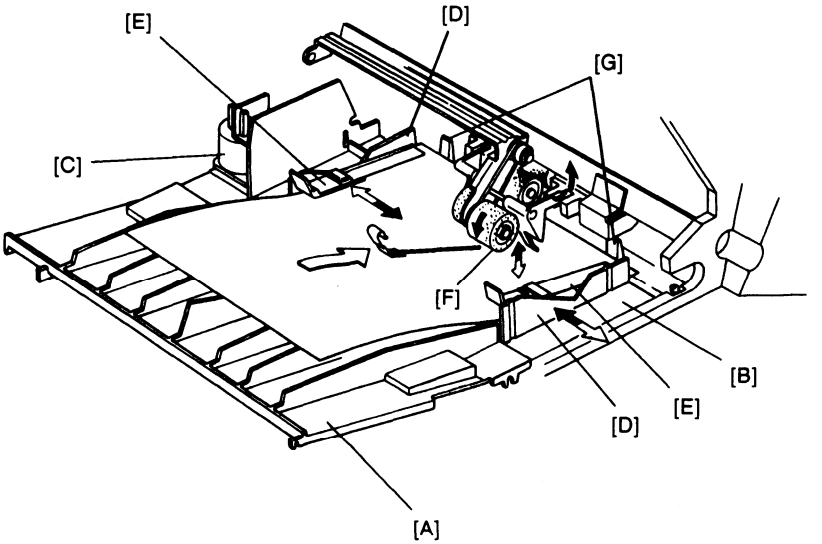
Note: Numbers circled within solenoid indicate sequence of solenoid operation.

The fork gate unit has five gates [A] through which copy paper passes to the duplex tray. Two solenoids [B,C], working together, create any of five separate states for the fork gates. (See the figure.)

	Sol. 1 [C]	Sol. 2 [D]	Paper Size
[E]	OFF	OFF	A3, DLT
[F]	ON	OFF	B4, LG
[G]	OFF	ON	A4 (L), LT (L), B5 (L)
[H]	OFF–>ON	ON	A4, LT, B5
[I]	ON	OFF–>ON	A5, HLT

Black arrows indicate initial movement.

14.3 DUPLEX STACKING
Basic Operation



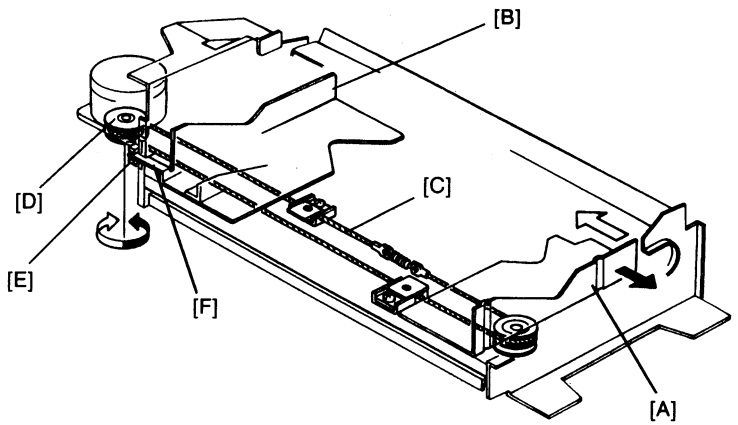
Paper is stacked in the duplex tray, which consists of the duplex delivery tray [A] and the jogger unit [B].

The duplex delivery tray transports paper from the fork gate unit to the jogger unit. The duplex delivery tray is ribbed to achieve precise stacking of paper in the duplex tray.

The jogger unit consists of a drive motor [C], jogger fences [D], duplex settlers [E], a positioning roller [F], and duplex stoppers [G]. All these components work together to achieve proper stacking of paper in the duplex tray.

When the Start key is pressed, the CPU reads the cassette paper size coding and the jogger fences are positioned 15 mm from either side of the copy paper. As paper enters the duplex tray, it is positioned under the duplex settlers. The positioning roller (made of sponge) rotates and pushes the paper up against the duplex stoppers to correct paper skew. The positioning roller is then lifted, and the jogger fences move inwards to square the stack every time a sheet enters the duplex tray.

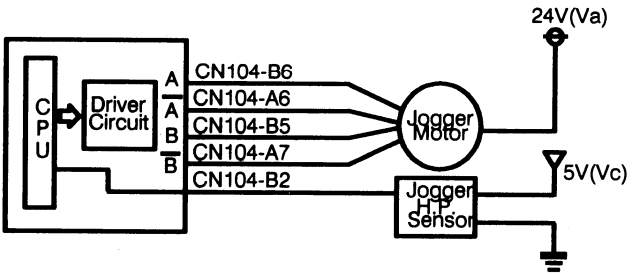
Jogger Drive Mechanism

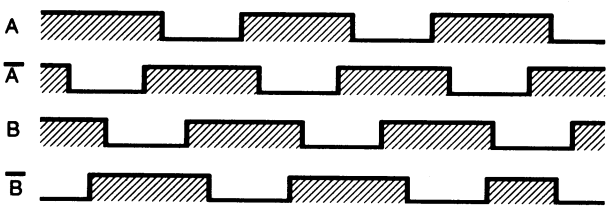


Both the front [A] and rear [B] fences of the jogger unit are attached to the same wire [C]. The jogger drive pulley [D] is mounted on the jogger motor shaft. When the jogger drive pulley turns, both fences move the same distance in opposite directions. The jogger home position sensor [E] informs the CPU when the jogger is at the home position.

In duplex mode, when the Start key is pressed, the jogger fences are driven outward by the stepper motor, and the sensor actuator plate [F] slides through the slot of the jogger home position sensor to the reference home position. After the home position is referenced, the jogger fences move inward and the stop position is determined by the paper size (cassette code).

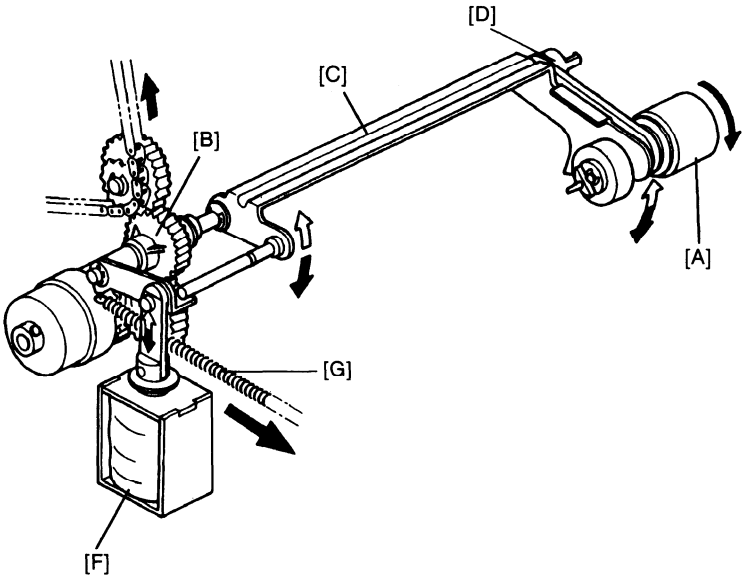
Jogger Motor Circuit





The jogger motor is a stepper motor. It is controlled by phase signals from the main CPU on the main board as shown in the above block diagram. With this motor, one step is 1.80°. One complete revolution equals 200 steps.

Duplex Positioning Roller



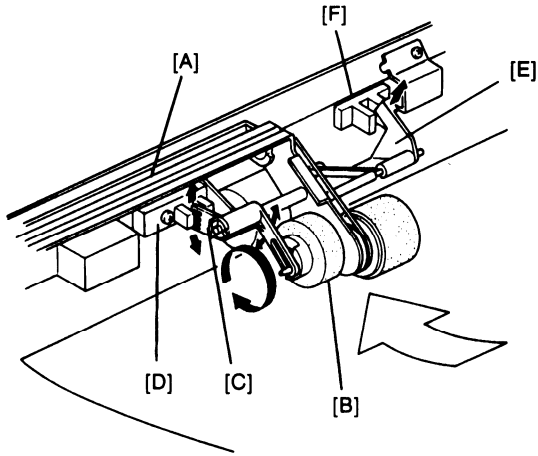
- Drive Mechanism -

The duplex positioning roller [A] is driven by the main drive chain. Power is transferred from the main drive chain to the positioning roller through the positioning roller gear [B], the positioning drive shaft [C], the positioning roller pulley [D], and the rubber belt.

- Up and Down Mechanism -

The positioning roller release spring [G] lifts the positioning roller 7 millimeters (0.29") above the jogger bottom plate and holds it in this position so that it does not interfere with the lateral stacking process. When a sheet is fed into the duplex tray, the positioning roller solenoid [F] energizes, pulling the positioning roller down to fully advance the copy paper up to the duplex stopper.

14.4 DUPLEX TRAY SENSORS



Duplex Entrance Sensor

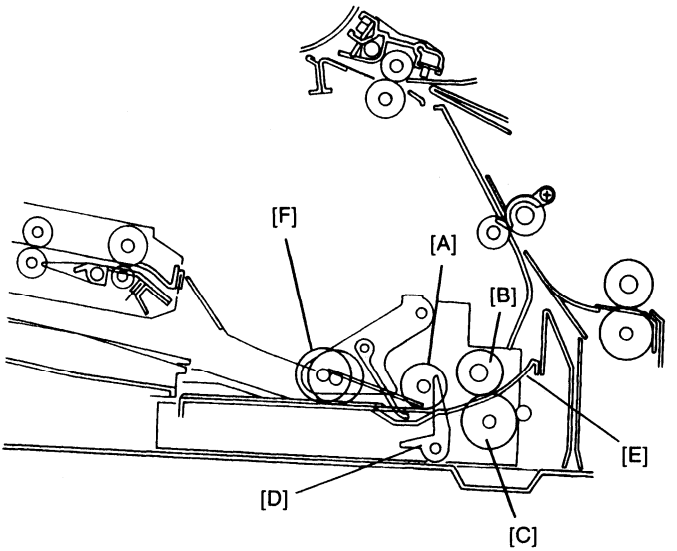
When paper enters the duplex tray, the positioning roller bracket [A] is in the low position and the actuator roller [B] is resting on the jogger bottom plate. When the paper passes under the actuator roller, the friction of the paper turns the actuator roller. This rotation moves the entrance actuator [C] up and down, actuating the entrance sensor.

There are several slots in the entrance actuator [C] that activate the sensor [D] successively when the actuator roller rotates. If there are more than two changes (ON - OFF - ON or OFF - ON - OFF) during the checking period, the CPU determines that paper has entered the duplex tray.

Duplex Paper Sensor

When there is copy paper in the duplex tray, the paper actuator [E] is moved up and away from the duplex paper sensor [F], which activates the photointerrupter (5V –> 0V). This informs the CPU that paper is in the duplex tray. When the last sheet of paper has entered the duplex tray, the CPU checks the suplex paper sensor signal and lights the second original instructions in the guidance display.

14.5 DUPLEX PAPER FEED

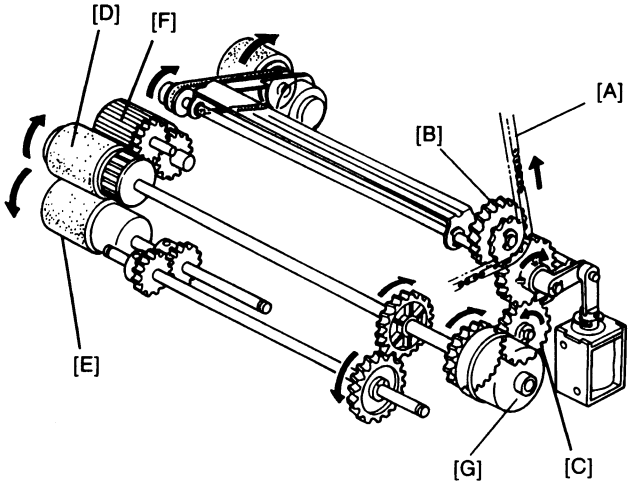


Basic Operation

Duplex paper feed uses an FRR (Feed + Reverse Roller) paper feed system. This is similar to the cassette feed system, except that the duplex pick-up roller [A] remains on the paper stack after feeding a sheet to the duplex feed roller [B]. (The cassette pick-up roller lifts after paper feed starts.) This mechanism prevents the sheet below the top sheet from being pushed backwards by the duplex separation roller [C]. The pick-up roller slows down the next sheet rejected by the duplex separation roller so that it remains in position for feeding at the next copy cycle.

During duplex feed, the duplex stopper [D] is moved under the duplex paper feed guide plate [E] and the duplex positioning roller [F] is lifted out of the way.

Duplex Feed Drive Mechanism

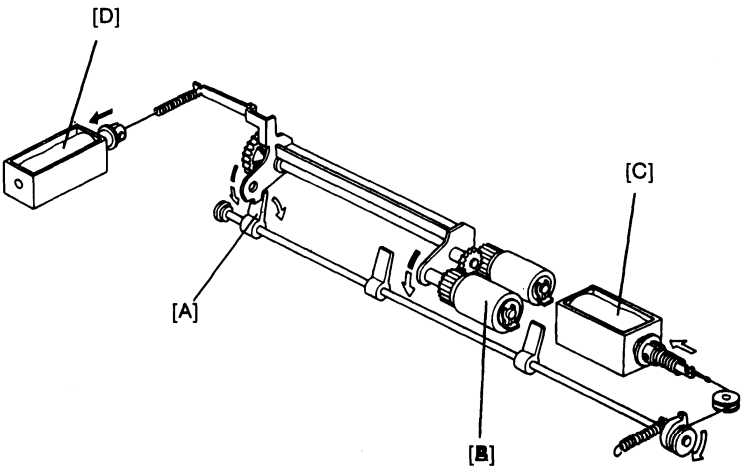


The main drive chain [A] turns the duplex feed rollers. The power is transferred through the drive sprocket gear, positioning roller gear [B], and idle gear [C to the gears driving the duplex feed roller [D], duplex separation roller [E], and pick-up roller [F].

To feed paper from the duplex tray, the CPU energizes the duplex feed clutch [G], providing drive to the duplex feed rollers.

This is similar to the mechanism used in the cassette paper feed, except that the rollers are not interchangeable. The one-way clutches used in the duplex feed drive are oriented in the opposite direction. Also, the roller surfaces are serrated in a set direction so that paper is fed precisely.

Duplex Stopper and Pick-up Roller Mechanism



The pick-up roller bracket is lifted up by the rearmost duplex stopper [A]. Both the duplex stopper and the pick-up roller [B] are moved by solenoids.

When paper is being fed, the duplex stopper solenoid [C] is energized and the stoppers are lowered. The pick-up roller bracket rotates downward and the pick-up roller drops onto the copy paper. The duplex pick-up solenoid [D] is energized 160 milliseconds after the duplex feed clutch turns on. Paper feed then begins. The pick-up roller stays in contact with the paper during paper feed.

14.6 RELATED SERVICE CALL CONDITIONS

Code #81: Jogger Home Position Not Off

Definition:
Lights if the jogger home sensor output stays LOW.

Observation:
Code #81 is displayed during the duplex mode copy cycle.
The jogger is vibrating.

Points to Check:
Check the voltage at CN104-B2 on the main PCB.

Check the jogger motor.

Code #82: Jogger Home Position Not On

Definition:
Lights if the jogger home position sensor output stays HIGH.

Observation:
Code #82 is displayed during the duplex mode copy cycle.

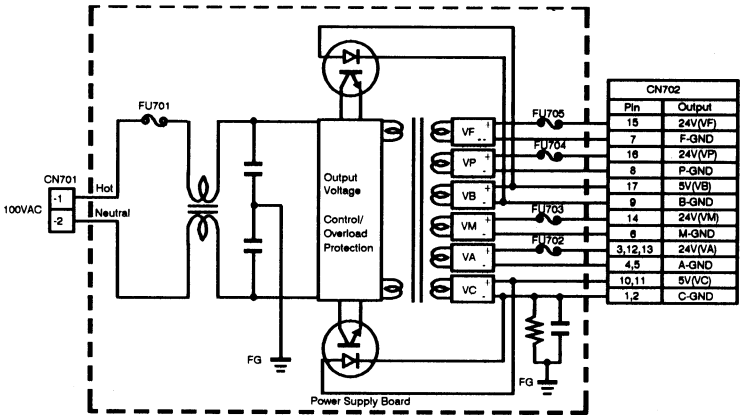
The jogger is vibrating.

Points to Check:
Check the voltage at CN104-B2 on the main PCB.

Check the jogger motor.

15. OTHER CIRCUITS

15.1 DC POWER DISTRIBUTION



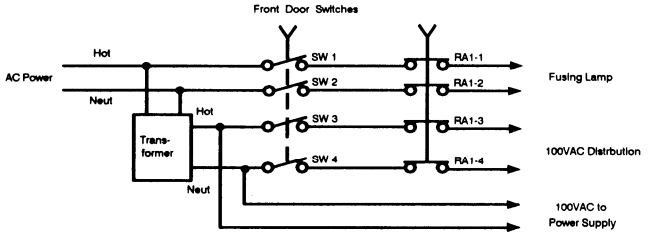
Power Supply Fuse Table

Voltage	Fuse	Typical Symptoms	Destination
24 Vf	FU705 (5A)	DF and Sorter inoperative	Main board, ARDF/RDH
24 Vp	FU704 (5A)	No display, blank copies	Operation panel, Power packs
5 Vb	*		Main board, corona cleaner motors, erase lamp unit (LED power)
24 Vm	FU703 (5A)	SC 2A	Optics PCB (scanner, lens, mirror drive motors)
24 Va	FU702 (3.15A)	Sorter motor on constantly	Main board, clutches, solenoids, counters, relays, ac PCB, operation PCB, paper feed PCB, SSR PCB, paper bank PCB.
5 Vc	*		Logic circuits, ARDF/RDH.
100 Vac	FU701 (5A)	Dead machine	100 Vac input

* The outputs of Vb and Vc are protected by a built-in safety circuit that will cause the output to open in the event of a short circuit. The output voltage is restored when the short circuit is corrected.

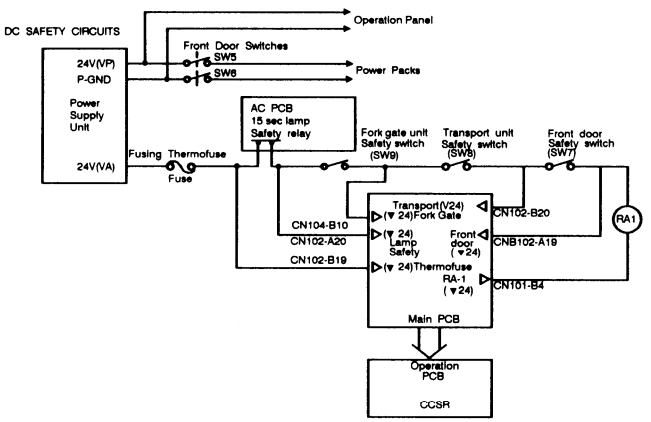
15.2 SAFETY SWITCH CIRCUITS

AC Safety Circuits



When the front door is opened, switches 1, 2, 3, and 4 open and cut ac power to the fusing lamp and all ac components. Relay RA1 also controls ac distribution.

DC Safety Switches

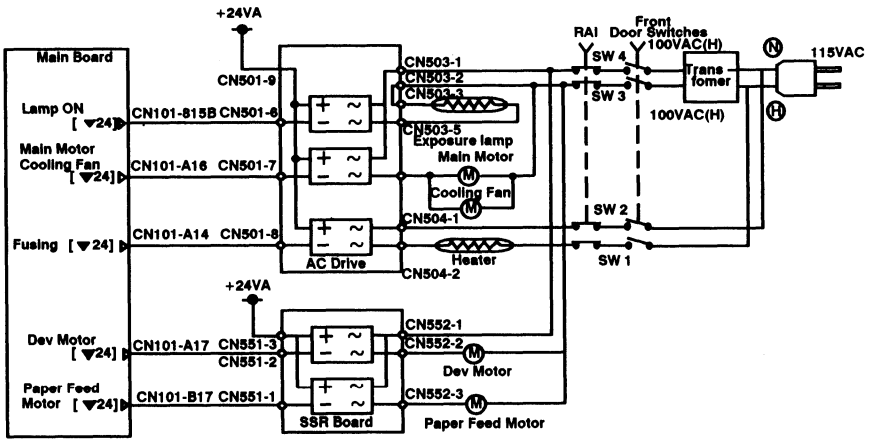


Switches 7, 8, and 9, the 15-second lamp safety relay, and the fusing thermofuse will cause RA1 to de-energize, which interrupts ac power. (Relay RA1 controls ac distribution.)

If switch 7, 8, or 9 is open, the Guidance Display indicates that a door is open. However, if the 15-second safety relay is energized or the thermofuse fails (open circuit), the Guidance Display will indicate a machine failure and display the appropriate Service Call Code number.

Safety switches 5 and 6 cut the 24 volts (Vp) from all power packs.

15.3 AC COMPONENT CONTROL

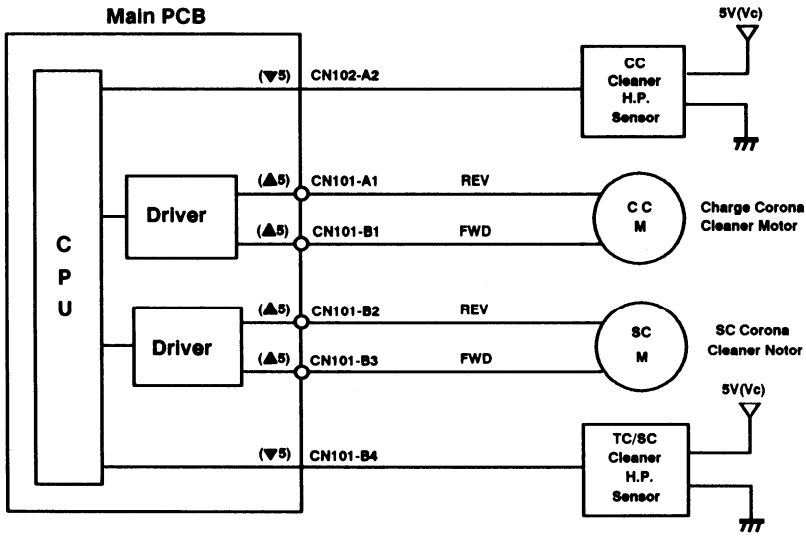


The ac drive PCB controls the main motor, cooling fan, exposure lamp, and fusing lamp. The SSR board controls the developer motor and the paper feed motor.

AC (hot) is supplied from RA1 and contacts through each ac component. AC neutral is applied to both the ac drive PCB and the SSR board. In addition, 24 volts (Va) is supplied to each "+" terminal of the SSRs, while the "-" terminal returns to the main board.

To energize a component, the main board supplies a LOW signal to the appropriate board, which causes the SSR to turn on, completing the ac circuit to the component. To de-energize the component, the main board removes the LOW signal from the board, turning it OFF.

15.4 CORONA CLEANER MOTORS

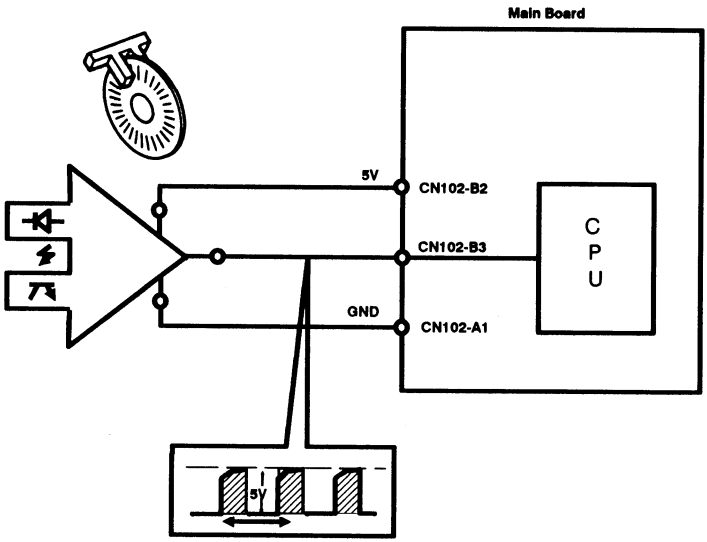


Small dc motors in the corona endblocks drive the corona cleaners.

When a cleaner motor is energized, the CPU supplies forward drive for a period of 20 seconds after which time it reverses the polarity of the motor drive voltage to return the cleaner to the home position. Home position (front endblock) is determined when the H.P. sensor turns off. However, if home position is not reached within 20 seconds after the reverse drive turns on, the CPU turns off the cleaner motor and adds 1 to the count stored in SP mode 120 and 121. The code for the charge cleaner motor is SC85 if the sensor stays low and SC86 if the sensor stays high; the separation cleaner motor is SC87 and SC88 respectively. Copies can still be made and no service call condition is displayed.

The cleaner motors are energized at power-up if a count of more than 5,000 copies are registered in an internal counter since the last time the corona wires were cleaned. When the cleaner motor actuates, the counter resets to zero.

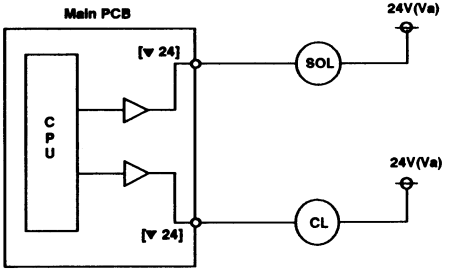
15.5 PULSE GENERATOR



The main board CPU controls the timing of all machine operations. The timing is based on how many pulses the CPU receives from the pulse generator. Pulses are generated by the rotation of a notched disk within a photointerrupter. As the disk rotates, light from the LED activates the phototransistor each time a notch appears.

If no pulses are received for a 4.5 second interval while the main motor is on, the CPU displays code SC 61.

15.6 MAGNETIC CLUTCH AND SOLENOID CONTROL



To energize an electromagnetic device, 24 volts (Va) is supplied to one side of the component. The main board then supplies a LOW trigger signal to the other side to turn the device on.

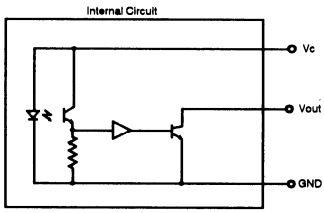
Magnetic Clutches

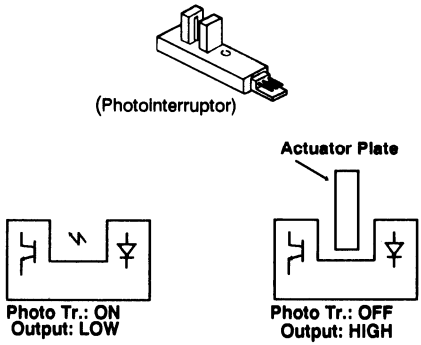
Name	CN #
1st Paper Feed	CN405-2 (Paper Feed PCB)
2nd Paper Feed	CN402-2 (Paper Feed PCB)
1st Feed Relay	CN416-2 (Paper Feed PCB)
Toner Supply	CN101-B8 (Main PCB)
Registration	CN101-A11 (Main PCB)
Duplex Paper Feed	CN104-A8 (Main PCB)

Solenoids

Name	CN #
Manual Feed	CN414-2 (Paper Feed PCB)
1st Pick-up	CN404-2 (Paper Feed PCB)
2nd Pick-up	CN401-2 (Paper Feed PCB)
Pick off	CN101-B5 (Main PCB)
Cleaning	CN101-A3 (Main PCB)
Inverter Return	CN104-B4 (Main PCB)
Junction Gate	CN104-A4 (Main PCB)
Fork Gate SOL-1	CN104-B3 (Main PCB)
Fork Gate SOL-2	CN104-A3 (Main PCB)
Duplex Positioning	CN104-B8 (Main PCB)
Duplex Stopper	CN104-A10 (Main PCB)
Duplex Pick-up	CN104-A5 (Main PCB)
Knocking	CN101-A13 (Main PCB)

15.7 SENSOR OPERATION
Photointerrupters





Photointerrupter sensors consist of a plastic encapsulated LED and phototransistor separated by an open slot. When the slot is empty, light from the LED activates the phototransistor and the sensor outputs a LOW signal. When an actuator plate enters the slot, light from the LED is blocked and the output becomes HIGH.

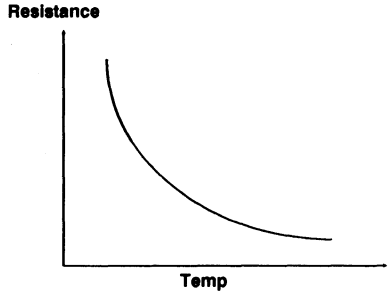
The following sensors are photointerrupters:

Name	CN #
Manual Feed Paper End	CN411-9 (Paper Feed PCB)
Manual Feed	CN409-11 (Paper Feed PCB)
1st Cassette Paper End	CN409-9 (Paper Feed PCB)
2nd Cassette Paper End	CN409-10 (Paper Feed PCB)
1st Lift	CN407-3 (Paper Feed PCB)
2nd Lift	CN406-10 (Paper Feed PCB)
Registration	CN417-3 (Paper Feed PCB)
1st Relay	CN415-3 (Paper Feed PCB)
Toner Overflow	CN103-7 (Main PCB)
Toner End	CN102-B25 (Main PCB)
Oil End	CN102-B12 (Main PCB)
CC Cleaner HP	CN102-A2 (Main PCB)
SC Cleaner HP	CN102-B4 (Main PCB)

Fusing Exit	CN102-A23 (Main PCB)
Exit Sensor	CN102-B23 (Main PCB)
Exit Relay	CN104-A9 (Main PCB)
Invertor Exit	CN104-B9 (Main PCB)
Duplex Entrance	CN104-A2 (Main PCB)
Duplex Paper	CN104-B1 (Main PCB)
Jogger HP	CN104-B2 (Main PCB)
Scanner HP	CN305-3 (Optics PCB)
Scanner Overrun	CN305-6 (Optics PCB)
Lens HP	CN305-9 (Optics PCB)
4th/5th Mirror	CN305-12 (Optics PCB)

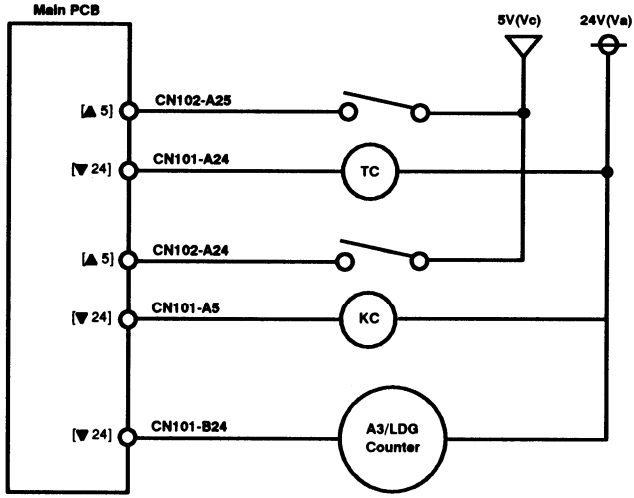
Thermistors





A thermistor is a semiconductor that converts a change in temperature into a change in resistance.
The character of this change is that resistance decreases when temperature increases, and vice versa.

15.8 COUNTER CIRCUITS



Total Counter

The CPU energizes the total counter by supplying a LOW signal at CN101-A12. This energizes the counter and closes the internal contact (counter confirmation). When the contact closes, CN102-A25 goes HIGH (5 volts dc) and the CPU determines that the counter has energized.

If the CPU does not receive a HIGH signal at CN102-A25 when the total counter is energized, SC 91 is displayed.

Key Counter (Option)

With this option, the copier will not operate unless the key counter is inserted.

The operation of this counter is the same as the total counter, however, there is no service call condition provided if the confirmation signal is not received by the CPU.

11" x 17" / A3 Counter (Option)

This counter keeps count of all 11" x 17" / A3 copies made. The operation is the same as for the other counters.

SECTION 3

INSTALLATION

Contents

INSTALLATION

1. INSTALLATION REQUIREMENTS 3-1

1.1 ENVIRONMENT 3-1

1.2 MINIMUM SPACE REQUIREMENTS 3-2

1.3 MACHINE LEVEL 3-3

1.4 POWER SOURCE 3-3

2. ACCESSORY CHECK 3-4

3. INSTALLATION PROCEDURE 3-5

3.1 COPIER INSTALLATION 3-5

3.2 CASSETTE MODIFICATION 3-15

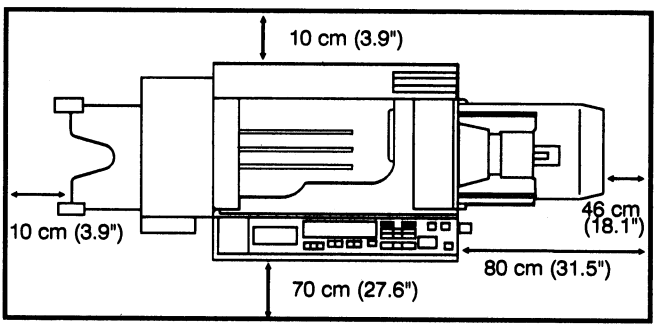
3.3 KEY COUNTER HOLDER INSTALLATION 3-16

1. INSTALLATION REQUIREMENTS

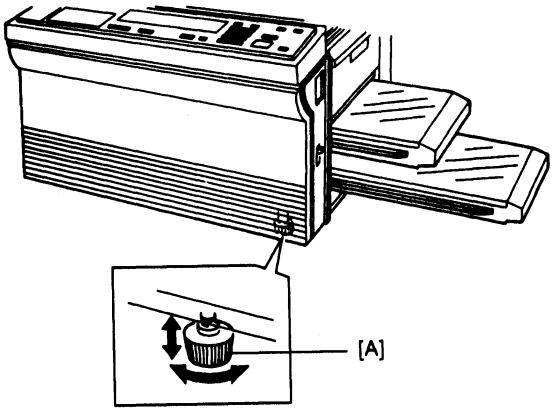
1.1 ENVIRONMENT

1. Temperature Range: 10°C to 30°C (50°F to 80°F)
2. Humidity Range: 15% to 90% RH
3. Ambient Illumination: Less than 1,500 lux (Do not expose to direct sunlight.)
4. Ventilation: Room air should turn over at least 3 times/hour.
5. Ambient Dust: Less than 0.15 mg/m^3 (4 x 10^{-3} Oz/yd^3)
6. Room size More than 10 m^3 (13.4 yd^3)
7. If the place of installation is air-conditioned or heated, place the machine
   a) where it will not be subjected to sudden temperature changes.
   b) where it will not be directly exposed to cool air from an air conditioner.
   c) where it will not be directly exposed to reflected heat from a heater.
8. Do not place the machine where it will be exposed to corrosive gasses.
9. Do not install the machine at any location over 2,000 m (6,500 feet) above sea level.
10. Place the copier on a strong and level base.
11. Do not place the machine where it may be subjected to strong vibrations.

1.2 MINIMUM SPACE REQUIREMENTS



1.3 MACHINE LEVEL



1. Front to Back: Within 5 mm (0.2") of level
2. Right to Left: Within 5 mm (0.2") of level
3. Screw the leveling feet [A] up or down to level the machine.

1.4 POWER SOURCE

1. Input voltage Level
   - 110 V/60 Hz - 15A
   - 115 V/60 Hz - 15A
   - 220 V/50 Hz - 8A
   - 240 V/50 Hz - 8A
2. Permissible Voltage Fluctuation : 10%
3. Permissible Extension Cord : None recommended

NOTE:
- Be sure to ground the machine. (Do not connect the grounding wire to a gas pipe.)
- Make sure the plug is firmly inserted in the outlet.
- Use a dedicated power outlet.
- Do not set anything on the power cord.

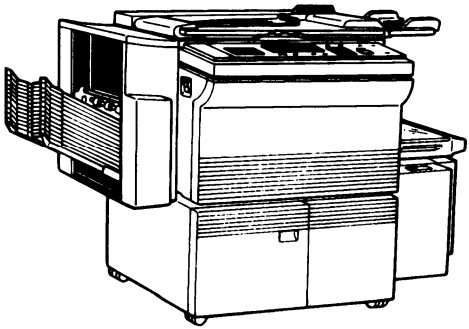
2. ACCESSORY CHECK

Check the quantity and condition of the accessories in the box according to the following list:

	USA	Europe
1. Editing Sheet	0	0
2. Sort/Stack Key Top) (inside the front cover)	1	1
3. Sort/Stack Key Cover (1FC) (inside the front cover)	1	1
4. NECR	1	1
5. Cassette - Large	1	1
6. Cassette - Small	1	1
7. Paper Size Actuator Plate	1	1
8. Paper Size Decal	3	3
9. Toner Catch Pan	1	1
10. Copy Tray	0	0
11. Original Holder	0	0
12. Operating Instructions		
- English	1	0
- Five languages	0	0
13. Envelope - NECR	1	0
14. Multiple Language Decal	0	0
15. Allen Screw-M4 x 60	1	1
16. Washer-M4	2	2
17. Screw/Washer-M4 x 6	4	4
18. Pippet (inside the front cover)	1	1
19. Key Cover-Double Sided Original (inside the front cover)	1	1

3. INSTALLATION PROCEDURE

3.1 COPIER INSTALLATION



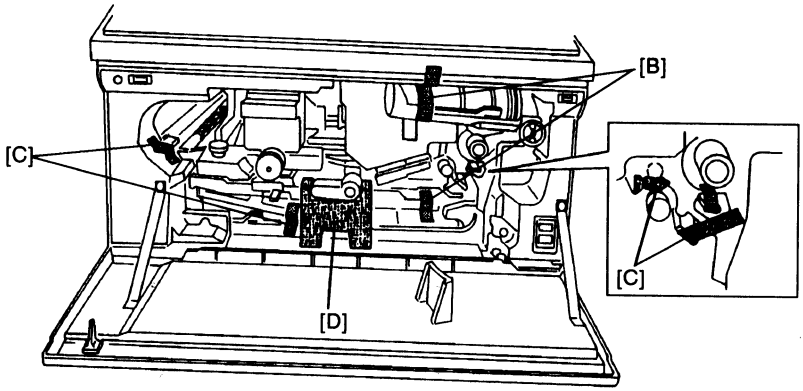
NOTE: The platen cover and the original stacker are needed as options if the DF is not to be installed. Also, the copy tray is needed if the sorter is not to be installed.

When the RDH unit is installed on this copier, **Optional ROM Type A** must be procured and installed in place of the ROM originally installed on the copier main board. (See the RDH installation procedure.) The ROM that comes with the RDH unit as an accessory is only to be installed on the **F30 (A007) or F31 (A01 9).**

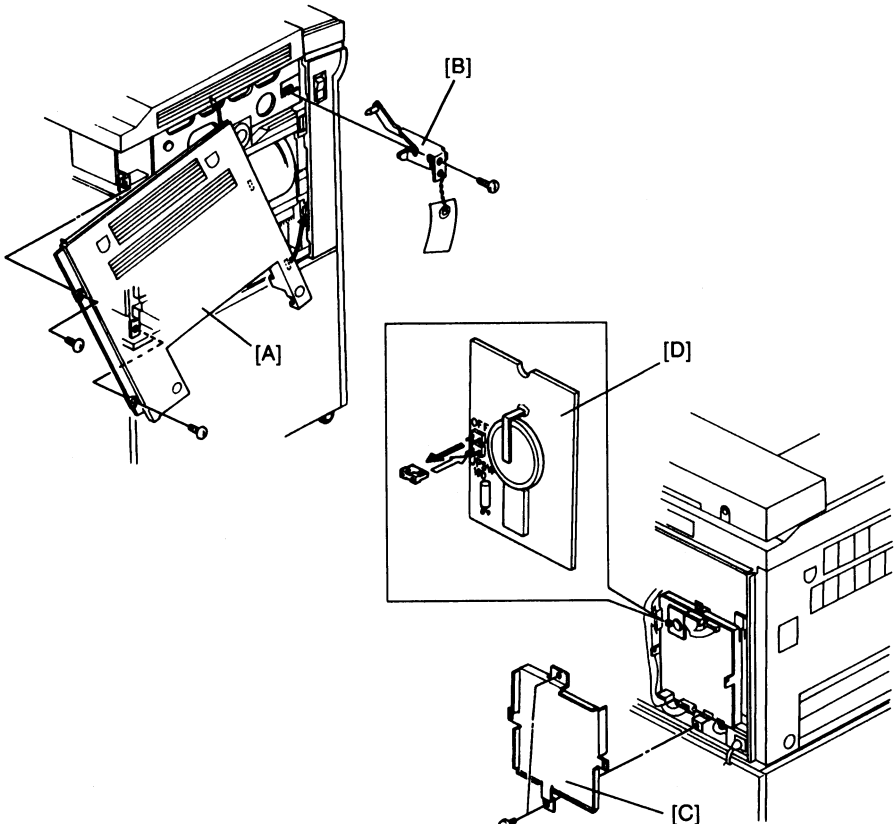
-European version-
The guidance ROM kit (option) is needed if one of the following optional languages is wanted on the guidance display.

Option ROM	Standard ROM
0: Swedish	0: Japanese
1: English	1: English
2: Danish	2: French
3: Norwegian	3: German
4: Finnish	4: Italian
5: Dutch	5: Spanish

(The English in the optional and the standard ROMs is the same.)



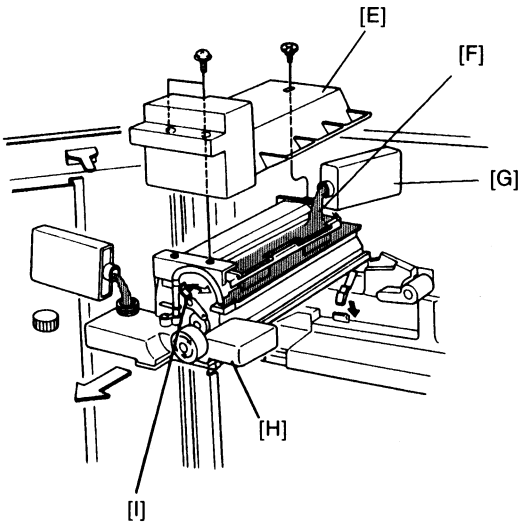
1. Remove all strips of tape, and open the front cover.
2. Remove the strips of tape as follows:
   Non-duplex model --- [B]
   Duplex model --- [B + C]
3. Remove the transport unit support cushion [D].
4. Remove the plastic wedge between the upper and lower registration rollers.



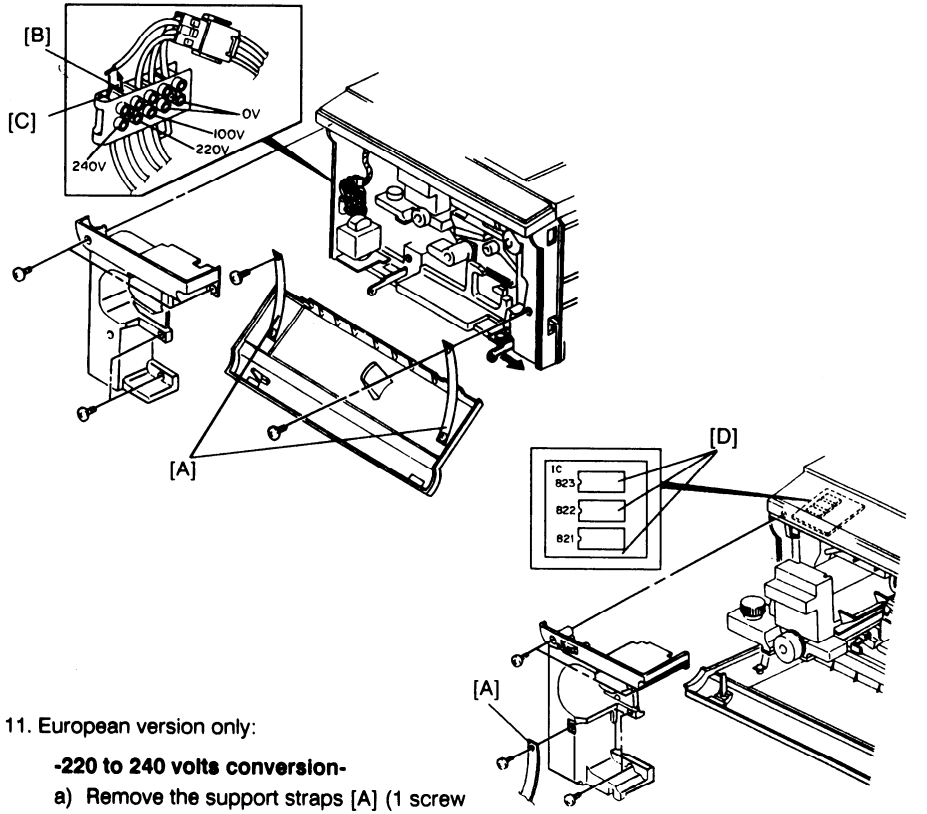
6. Remove the rear cover (4 screws), the left cover [A] (2 screws), and the scanner lock plate [B] (1 screw).

NOTE: Reinstall the screw for future use. Do not throw away the scanner lock plate; it must be reinstalled before the copier is transported long distances.

7. Remove the main PCB shielding plate [C] (2 screws), and move the jumper connector (JPSW 191) on the timer PCB [D] from the upper (printed "OFF") to the lower position. Then, reinstall the removed covers if no peripherals are to be installed.



8. Remove the fusing unit, then remove the fusing unit cover [E] (2 screws, 1 shoulder screw).
9. Prime the oil supply pad [F] with silicon oil [G]. Then, fill the oil tank [H] with silicon oil.
10. Manually operate the oil pump lever [I] to check the operation and the overall condition of the silicon oil supply assembly. Then, reassemble the fusing unit.



11. European version only:

-220 to 240 volts conversion-

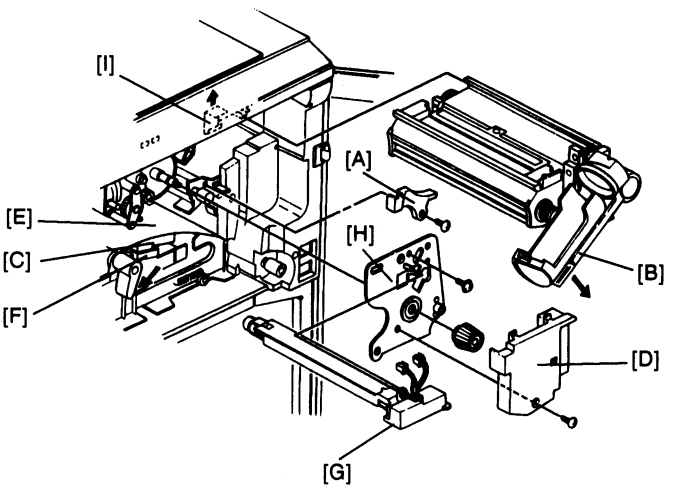
a) Remove the support straps [A] (1 screw each), the front cover (2 knob screws) and the left inner cover (4 screws)

b) Disconnect the wire from the 220 volt terminal [B], and connect this wire to the 240 volt terminal [C] as shown.

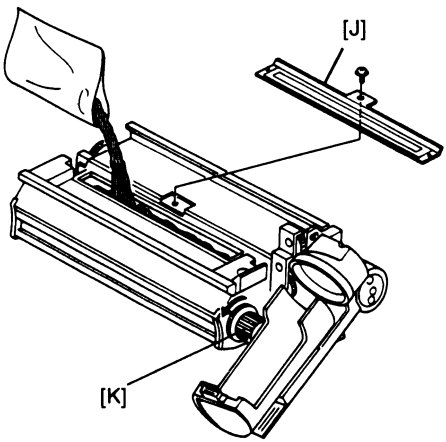
-Guidance ROM kit installation-

a) Replace the three ROMs [D] (IC 821, 822 & 823) on the operation panel with the ROMs of the guidance ROM kit.

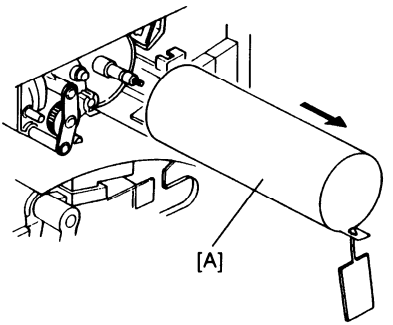
b) Reinstall the right inner and the front covers.

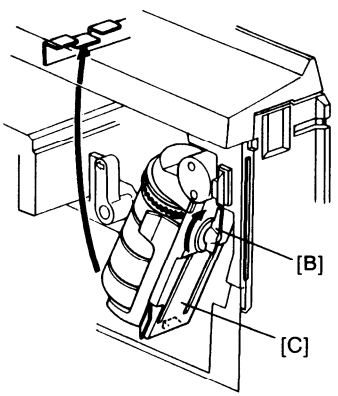


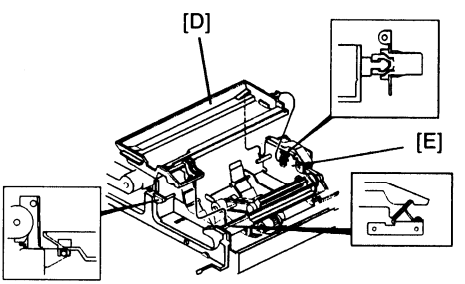
12. Reinstall the fusing unit.
13. Remove the image density sensor cover [A].
14. Pull down the toner bottle holder [B], lower the transport unit [C], and remove the drum inner cover [D] (1 screw).
15. Put a sheet of paper [E] on the T/S corona unit [F].
16. Remove the charge corona unit [G] (2 connectors), and remove the drum stay [H] (1 brass screw, reverse-thread knob).
17. Place a sheet of paper on the floor. Raise the development unit lock lever [I], remove the development unit, and place it on the paper.



18. Remove the developer inlet cover [J] (1 screw).
19. Pour one kilogram of developer into the development unit while turning the knob [K] counterclockwise to distribute the developer.
20. Reinstall the developer inlet cover.







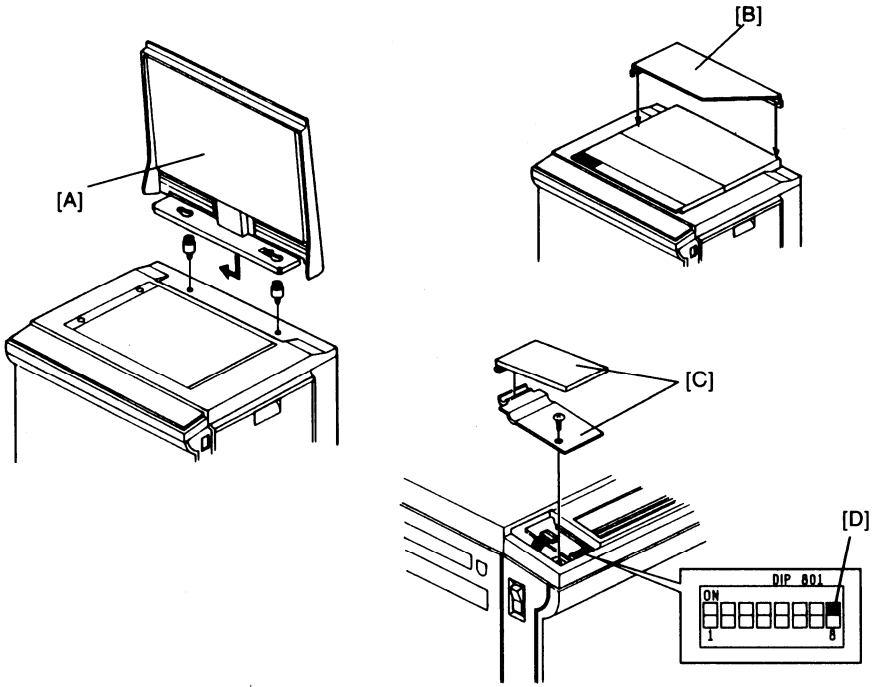
21. Pull out the drum protective sleeve [A] from the drum.

NOTE: Save the drum protective sleeve for future use when servicing the copier.

22. Reinstall all removed parts, and return them to their original position.

23. Load the toner bottle onto the bottle holder. Then, rotate the lever [B] to fix the bottle, and raise the holder [C] up to the bracket.

24. Install the toner catch pan [D] on the jogger unit [E].



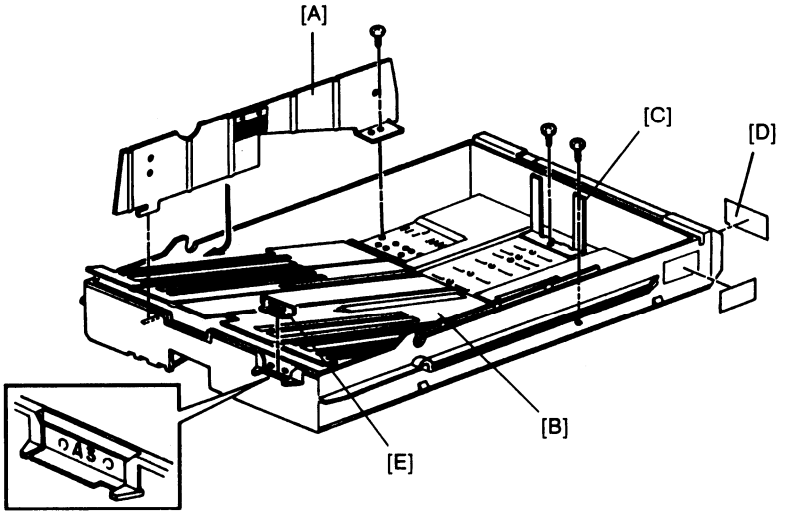
25. Install the platen cover [A] (2 M5 stud screws) and the original holder [B] (Two sided tape) as necessary.

26. Remove the DIP switch cover [C] (1 screw), and turn on DIP switch 801-8 [D]. Then, plug in the machine and turn on the main switch.

27. Set the proper language in the guidance display using SP 12 (LT Version) or SP 13 (A4 Version).
    To access SP (Service program) mode, enter 12 or 13 using the number keys. Press the Recall/Enter key.

28. Put five sheets of white paper (A3 of 11" x 17") on the exposure glass.
29. Set SP 10 for drum conditioning.
30. After the warm up period is completed, press the Start Key to start drum conditioning. (100 is automatically displayed on the copy counter by SP 10.)
31. Set all appropriate SP modes as required.
32. Turn off the main switch and DIP switch 801-8. Then, reinstall the DIP switch cover and turn on the main switch.
33. Load paper into the cassette, then check the machine operation and the copy quality.
34. Fill out the New Equipment Condition Report.

3.2 CASSETTE MODIFICATION

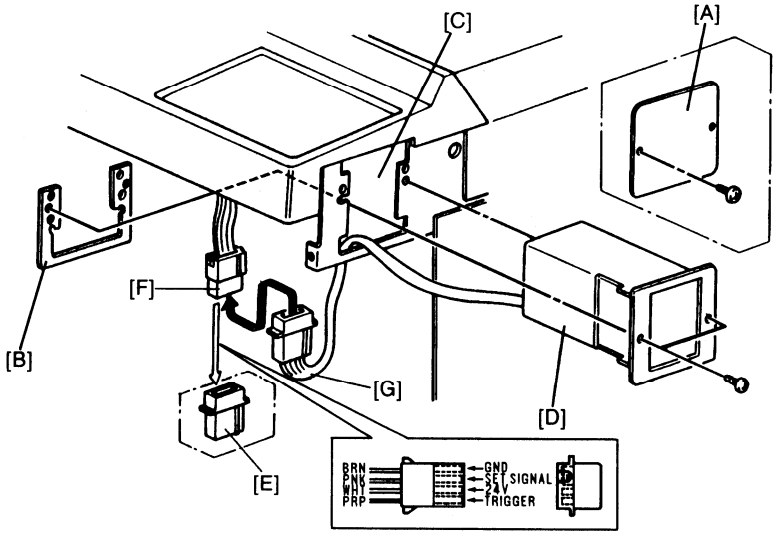


1. Remove the cassette cover.
2. Remove the side fences [A] (1 screw each) and the bottom plate [B].
3. Reposition the rear fence [C] (1 screw) in the desired paper size position.

NOTE: Paper size positions are shown on the inside of the cassette.

4. Reinstall the bottom plate.
5. Reinstall the side fences in the desired paper size position.
6. Attach the appropriate paper size decals [D] on the cassette at the positions shown.
7. Insert the desired actuator plate [E] in the slot on the front of the cassette as shown.

3.3 KEY COUNTER HOLDER INSTALLATION



1. Remove the front cover (2 screws).
2. Remove the right inner cover (4 screws) and right front cover (1 screws).
3. Remove the cover plate [A] and fixing plate [B] from the key counter bracket [C].
4. Hold the fixing plate on the inside of the key counter bracket and insert the key counter bracket. Insert the key counter holder [D].
5. Align the holes in the fixing plate with the mounting holes of the key counter holder and secure the key counter holder.

NOTE: The fixing plate has three sets of holes. Make sure to use the set that matches the holes on the counter.

6. Remove the shorting plug [E] from the key counter connector [F].
7. Plug in the key counter harness [G].
8. Reassemble the copier. Insert the key counter and check its operation.

NOTE: Confirm that SP 90 (Secret mode) is set in “No” position.

SECTION 4

SERVICE TABLES

Contents

SERVICE TABLES

1. PM TABLE 4-1

2. SERVICE TABLES 4-4

2.1 Test Points 4-4

2.2 Variable Resistors 4-4

2.3 DIP Switch Tables 4-5

2.4 User Code Table 4-5

2.5 Service Program SP-8 Data Input Guide Table 4-6

3. SERVICE PROGRAM MODE OPERATION 4-7

3.1 Service Program Access 4-7

3.2 Change Adjustment Values or Modes 4-7

3.3 Memory Clear 4-8

3.4 Service Program Mode Table 4-10

3.5 Language Code Table 4-17

4. SPECIAL TOOLS AND LUBRICANTS 4-18

5. SERVICE REMARKS 4-19

5.1 Handling The Drum 4-19

5.2 Charge Corona 4-19

5.3 Erase Lamp 4-19

5.4 Optics 4-20

5.5 Development Unit 4-20

5.6 Transfer and Separation Corona 4-21

5.7 Cleaning Unit 4-21

5.8 Pre-transfer and Quenching Unit 4-21

5.9 Fusing 4-21

5.10 Paper Feed and Duplex 4-21

5.11 Optional Equipment 4-22

5.12 Handling PCBs 4-22

1. PM TABLE

C: Clean R: Replace L: Lubricate A: Add I: Inspect

A. OPTICS

	EM	80k	160k	240k	320k	NOTE
Mirrors, Lens Reflectors, Toner Shield Glass	C	C	C	C	C	Alcohol/Water
Exposure Glass	C	C	C	C	C	Glass Cleaner
Platen Cover	C	C	C	C	C	Alcohol/Water
Exposure Lamp		I	I	I	I	Replace if necessary
Scanner Guide Rods and Plate		C,L	C,L	C,L	C,L	Launa Oil
Guide Rod Felt		I	I	I	I	Replace if necessary
ADS Sensor		C	C	C	C	Blower Brush Only

B. PAPER FEED

	EM	80k	160k	240k	320k	NOTE
Paper Feed Rollers	C	R	R	R	R	Damp Cloth
Pick-up Rollers	C	R	R	R	R	Damp Cloth
Separation Rollers	C	R	R	R	R	Damp Cloth
Slip Clutch		L	L	L	L	Mobil Temp.78
Registration Roller		C	C	C	C	Damp Cloth
Lift Motor Worm Gear and Worm Wheel		L	L	L	L	Mobil Temp.78
Paper Feed Guide Plate		C	C	C	C	Damp Cloth
Registration Sensor		C	C	C	C	Blower Brush
Cassette Bottom Plate Pad		C	C	C	C	Damp Cloth
Paper Dust Cleaner		C	C	C	C	Damp Cloth
Relay Rollers		C	C	C	C	

C. AROUND DRUM

	EM	80k	160k	240k	320k	NOTE
Corona Wires		I	I	I	I	Replace if necessary
Wire Cleaner Pad		R	R	R	R	
End Blocks and Casing	C	C	C	C	C	Alcohol/Water
Cleaner Drive Wire		I	I	I	I	Replace if necessary
PTL Filter	C	C	C	C	C	Dry Cloth, Discharge
QL Filter	C	C	C	C	C	Dry cloth, Discharge
ID Sensor	C	C	C	C	C	Blower Brush
Erase Lamp Unit		C	C	C	C	Dry Cloth

D. CLEANING UNIT

	EM	80k	160k	240k	320k	NOTE
Cleaning Blade		R	R	R	R	
Cleaning Seals		I	I	I	I	Clean or replace if necessary
Cleaning Brush		R	R	R	R	
Bias Roller		I	I	I	I	Clean if necessary
Bias Roller Blade		C	C	R	C	Dry Cloth
Pick-off Pawls		I	I	I	I	Clean if necessary

E. DEVELOPMENT UNIT

	EM	80k	160k	240k	320k	NOTE
Developer		R	R	R	R	
Upper Brush Seal		C	C	C	C	
Development Unit Drive Gears		L	L	L	L	Silicone Grease G40M
Development Filter		R	R	R	R	

F. FUSING UNIT

	EM	80k	160k	240k	320k	NOTE
Hot Roller			R		R	
Pressure Roller			R		R	
Stripper Pawls	I	C	C	C	C	
Oil Supply Pad	I	R	R	R	R	Prime with oil when replacing
Oil Blade	I		R		R	Prime with oil when replacing
Fusing Entrance & Exit Guide		C	C	C	C	Suitable solvent
Oil Sump		C	C	C	C	
Oil Tank	A	A	A	A	A	
Gears		L	L	L	L	Mobil Temp.78

G. OTHERS

	EM	80k	160k	240k	320k	NOTE
Transport Ozone Filter		R	R	R	R	
Registration Roller Gears		L	L	L	L	Mobil Temp.78
First Relay Roller Gears		L	L	L	L	Mobil Temp.78
First Relay Rollers		C	C	C	C	Damp Cloth
Drive Chains and Belts		I	I	I	I	Replace if necessary
Transport Belt		C	C	C	C	Damp Cloth
Vacuum Fan Filter		R	R	R	R	
Exit Relay Rollers		C	C	C	C	Damp Cloth
Bushings			L		L	

H. DUPLEX

	EM	80k	160k	240k	320k	NOTE
Inverter Support Roller		C	C	C	C	Damp Cloth
Inverter Pressure Roller		C	C	C	C	Damp Cloth
Positioning Roller Drive Belt		C	C	C	C	Damp Cloth
Positioning Roller		C	R	C	R	Damp Cloth
Duplex Slip Clutch		L	L	L	L	Mobil Temp.78
Duplex Pick-up Roller	C	C	R	C	R	Damp Cloth
Duplex Separation Roller	C	C	R	C	R	Damp Cloth
Duplex Feed Roller	C	C	R	C	R	Damp Cloth

I. DOCUMENT FEEDER

	EM	80k	160k	240k	320k	NOTE
Belt	C	C	C	C	C	Belt cleaner, replace if necessary
Pick-up Roller	C	C	R	C	R	Water, replace if necessary
Feed Roller	C	C	R	C	R	Water, replace if necessary
Friction Roller	C	C	R	C	R	Water, replace if necessary

J. CASSETTE BANK

	EM	80k	160k	240k	320k	NOTE
Pick-up Roller	C	C	R	C	R	Water, replace if necessary
Feed Roller	C	C	R	C	R	Water, replace if necessary
Friction Roller	C	C	R	C	R	Water, replace if necessary

2. SERVICE TABLES

2.1 Test Points

- Main Board -

Number	Function
TP100	Image density sensor input voltage
TP101	+24V
TP102	+5V
TP103	GND

- Scanner Control -

Number	Function
TP301	+24V(Vm)
TP303	Factory Use
TP304	Factory Use
TP305	Factory Use
TP306	Factory Use
TP307	Factory Use
TP308	Original Density Voltage
TP309	Scanner Forward Signal (Low Active)
TP310	Scanner Return Signal (Low Active)
TP311	GND
TP312	+5V(Vc)

2.2 Variable Resistors

- ID Sensor Board -

VR	Function
VR-1	LED Light Intensity Adjustment

- Main Board -

VR	Function
VR-100	ADS Voltage Adjustment

2.3 DIP Switch Tables

DIP SW 801 (Operation Panel)

SW #	Description
1*	Free run
2	Not used
3 4 5	Language code (See language code table.)
6	Not used
7	Clear counter (See CLEAR MEMORY PROCEDURE.)
8	Service Program mode access

* When ON, the SP mode is disabled.

DIP SW 100 (Main Board)

SW #	Description
1	Factory use only (must be off)
2	Factory use only (must be off)
3	Disables the oil end sensor operation
4,5 6,7	Not used
8	RAM clear (See CLEAR MEMORY PROCEDURE.)

2.4 User Code Table

There are 20 user codes as follows:

1.	1101	11.	2111
2.	1202	12.	2212
3.	1303	13.	2313
4.	1404	14.	2414
5.	1505	15.	2515
6.	1606	16.	2616
7.	1707	17.	2717
8.	1808	18.	2818
9.	1909	19.	2919
10.	2010	20.	3020

2.5 Service Program SP-8 Data Input Guide Table

INPUT #	SENSOR	DATA
1	Registration sensor	
2	Fuser sensor	
3	Exit sensor	
4	Relay roller sensor #1	
5	Relay roller sensor #2	
6	Relay roller sensor #3	DATA 1 .. Paper present
8	Inverter entrance sensor	
9	Inverter exit sensor	DATA 0 .. Paper not present
10	Duplex entrance sensor present	
11	Duplex paper sensor	
12	Jogger home position	DATA 0 .. Jogger at H.P.
15	Sorter inlet sensor	
16	Sorter bin sensor	DATA 0 .. Paper not present
17	Sorter home position sensor	DATA 1 .. Bins at H.P.
18	Sorter door safety switch	DATA 0 .. Sorter door closed
20	Toner end sensor	DATA 1 .. Toner present
21	Total counter confirmation signal	DATA 0 .. Confirmation signal LOW (T.C off)
24	Pressure plate reed switch	DATA 1 .. Pressure plate down
25	Paper bank set signal	DATA 1 .. Paper bank installed
27	Duplex unit set signal	DATA 1 .. Duplex unit installed
30	Paper lift sensor #1	
31	Paper lift sensor #2	DATA 1 .. Cassette lifted
32	Paper lift sensor #3	DATA 0 .. Cassette down
33	Paper lift sensor #4	

For all sensors, DATA is displayed in the guidance display.

3. SERVICE PROGRAM MODE OPERATION

The service program mode is used to check electrical data and change modes or adjustment values.

3.1 Service Program Access

1. Turn the main switch off.
2. Remove the DIP switch cover on the operation panel and turn on DIP SW 801-8. Then, turn the main switch on.

   NOTE: At this point the guidance display will prompt...
   "PROGRAM No." No.5

3. Using the numeric key board, enter the desired SP mode number according to the Service Program Mode Table. The SP program can also be selected with the magnification keys (+,-); in this case, SP numbers are scanned through. After selecting an SP number, press the ENTER key (#).

   NOTE: To cancel an already entered program, press the Clear key. Also, if an invalid SP number is entered, "Press Clear key" is displayed.

4. To abandon SP mode, turn the main switch off, set DIP SW 801-8 to the off position, and turn the main switch on.

3.2 Change Adjustment Values or Modes

1. Follow steps 1-3 of the preceding procedure.
2. Factory value settings or modes will be displayed in the guidance display.
3. Enter the desired value or mode using the numeral keys according to the Service Program Mode table.
4. Turn off the main switch, set DIP SW 801-8 to the off position, and turn the main switch on.

The following procedure can be used instead of DIP SW 801-8 to access program numbers 80, 81, 90, 91, and 92.

1. Press the Mode Clear key.
2. Press the Clear/Stop key.

3. Press the Enter key. Simultaneously, the guidance display prompts

   "PROGRAM No.'' NO.80

4. Enter the desired number using the number keys or zoom keys.

5. Press the Enter key.
   • Press the Clear Modes key to abandon SP mode.

3.3 Memory Clear

< SP-97 "Clears service counters and jam counters" >

Service program SP-97 clears all self-diagnostic counters and paper jam counters. This function is used as follows:

1. Turn the main switch off.
2. Turn on DIP SW 801-7 and 8 on the operation panel and turn the main switch on.
3. Select service program SP-97 and and press the "1" key on the key pad. Then, press the Enter key.

At this point, service programs SP-120 through 139 clear and default to "0".

4. Turn the main switch off.
5. Turn DIP SW 801-7 and 8 off.
6. Turn the main switch on to resume normal copier operation.

< SP-98 “Clears all counters” >

Service program SP-98 clears all copy counters, self-diagnostic counters and jam counters.

The procedure for using this function is the same as with SP-97, only this time select SP-98.

The following will be cleared:

1) SP-100 through SP-139
2) SP-85 (E.M. telephone number)
3) SP-86 through SP-89 (PM counter)
4) All user programs
5) Secret Mode counters 1-20

< SP-99 “Clear all memory” >

This service program clears all the service programs described above as well as all adjustments and modes. All modes default to factory settings.

1. Turn the main switch off.
2. Turn on DIP SW 801-7 and 8 on the operation board.
3. Turn on DIP SW 100-8 on the main board.
4. Turn the main switch on.
5. Select SP-99 and press the “1” key on the key pad. Then, press the Enter key to clear the memory.
6. Turn the main switch and the DIP switches off. Then, turn the main on to resume copier operation.

3.4 Service Program Mode Table

Mode No.	Function	Data	Comments
5	Exposure Lamp OFF Free Run: Free run with exposure lamp OFF		
6	Jam Detection OFF: Copies are made without jam detection.		"No" is displayed when 0 is selected.
7	Corona Wire Cleaner Function: Operates CC/SC cleaner motors.		Motor starts when Enter key is pressed. Stops after 1 cycle.
8	Input Check: Displays sensor input.		For data, see the input check table.
10	Drum conditioning: Conditions a new drum.		100 will appear in the copy counter. Press Start to activate.
11	All Indicators ON: Turns on all operation panel indicators.		
12	Language (LT version only): Selects language. (French or English)	0: E 1: F	DIP SW 801-3,4,5 must be set. See DIP SW tables. (Factory setting = 0: E)
13	Language (A4 version only): Selects language. (Japanese, English, French, German, Italian and Spanish)	0: J 1: E 2: F 3: G 4: I 5: S	DIP SW 801-3,4,5 must be set. See DIP SW tables.
15	Auto Reset Time: Selects 1 or 3 minute auto reset.	0: 1 min 1: 3 min 2: none	(Factory setting = 0)
16	Count Up/Down: Selects count up or count down.	0: UP 1: DOWN	
17	Auto Cassette Shift: Selects autocassette shift mode.	0: YES 1: NO	Copier automatically shifts to another cassette holding same size paper when paper runs out. (Factory setting = 0)
18	Beeper: Turns beeper ON or OFF.	0: YES 1: NO	(Factory setting = 0)
19	Auto ID Priority: Selects the priority of image density control when the main switch is turned on.	0: ADS 1: Man.	(Factory setting = 0)
20	Feed Station Priority: Selects feed station priority at power on.	0: 1st 1: 2nd (LCT)	(Factory setting = 0)

Mode No.	Function	Data	Comments
21	APS Priority: Selects APS or manual.	0: Yes 1: No	(Factory setting = 0)
22	SADF Shut-Off Time: Selects shut-off time for SADF mode.	0: 4 sec 1: 60 sec	(Factory setting = 0)
23	Free Size: Enables originals of various sizes to be fed from the same stack.	0: No 1: Yes	Possible in SADF mode. (Factory setting = 0)
24	RDH/ARDF priority: Selects RDH or ARDF.	0: RDH 1: ARDF	Only if RDH/ARDF is installed. (Factory setting = 0)
25	Staple limit: Sets staple limit at 35 copies.	0: Yes 1: No	Finisher only. (Factory setting = 0)
26	Shift stack: Shift stack mode is automatically selected when staples run out.	0: No 1: Yes	Finisher only. (Factory setting = 0)
27	Side erase: Decreases side erase margins about 5mm each.	0: No 1: Yes	The first LED inside each paper boundary turns on. (Factory setting = 0)
28	Sort Priority: Sort Mode is automatically selected when more than 1 original is set on the DF table and the entered copy quantity is greater than 2 and less than 20.	1: Normal 1: Sort	Sorter and DF must be installed on the machine. (Factory setting = 0)
30	Toner Supply Mode: Selects toner supply system.	0: Detect 1: Fixed	See SP31/SP32 for ratios. (Factory setting = 0)
31	Toner Supply Amount (Detect Mode): Determines how much toner is supplied in detect mode.	0: 30% 1: 15% 2: 45% 3: 60%	(Factory setting = 0)
32	Toner Supply Amount (Fixed and Detect): Determines how much toner is supplied in fixed and detect modes.	0: 7% 1: 4% 2: 11% 3: 14%	(Factory setting = 0)
33	ID Sensor Bias: Sets the bias voltage applied to the bias roller for image density sensing.	0: 500 1: 380 2: 470 3: 530	500 V = normal 470 V = light 380 V = lightest 530 V = dark (Factory setting = 0)
34	Bias shift: Permanently shifts bias output.	0: N 1: 60 V 2: 120 V	Shifts all bias levels including ID pattern bias. (Factory setting = 0)
37	Lead Edge Separation Corona timing: Sets off-timing of the lead edge separation corona.	0: 10 mm 1: 7 mm 2: 13 mm	Use when separation problems occur. 7 mm: -10 msec. 13 mm: +10 msec. (Factory setting = 0)

Mode No.	Function	Data	Comments
39	Charge Wire Cleaner: Sets charge wire cleaner to on or off.	0: ON 1: OFF	Cleaner motor turns on every 5K copies at power up. (Factory setting = 0)
41	Lead Edge Erase Margin Adjustment: Adjusts the lead edge margin.	0 - 15	0.6 mm per step. (Max. -4.8 mm to +4.2 mm) (Factory setting = 8)
42	Registration Adjustment: Adjusts registration.	0 - 15	0.6 mm per step. (Max. -4.8 mm to +4.2 mm) (Factory setting = 8)
43	Vertical Magnification Adjustment: Adjusts magnification in direction of paper travel.	0 - 15	-0.8% to +0.7% (Factory setting = 8)
44	Horizontal Magnification Adjustment: Adjusts magnification perpendicular to the direction of paper travel.	0 - 15	-0.8% to +0.7% (Factory setting = 8)
45	Lens Tolerance Adjustment: Adjusts lens position to correct focus.	0 - 15	-0.8% to +0.7% (Factory setting = 8)
47	Focus Adjustment: Adjusts 4th/5th mirror position to correct focus.	0 - 15	0.215 mm per step. -1.72 mm to +1.505 mm (Factory setting = 8)
48	Light Intensity Adjustment: Adjusts exposure lamp voltage.	50 - 80 Vac	To adjust voltage, enter lamp voltage with key pad in 0.5 volt steps. (Factory setting = 65)
49	Fusing Temperature Adjustment: Adjusts fusing temperature.	175 - 190 degrees	175 to 190 degrees in 1 degree steps. (Factory setting = 185)
51	Exposure Lamp Voltage Check: Displays exposure lamp voltage.		Exposure lamp stays on for 10 seconds. Do not repeat more than 5 times to avoid overheating the optics cavity.
52	Fusing Temperature: Displays the fusing temperature.		
53	Drum Temperature: Displays the drum temperature.		

Mode No.	Function	Data	Comments
54	Vsg Adjustment: Turns on ID sensor LED.		Adjust Vsg with VR on the ID sensor board. LED turns on 10 sec. (no drum rotation).
55	Vsg/Vsp Check: Displays Vsg and Vsp.		Vsp/Vsg value updated every 10 copies.
56	Auto ID Voltage Adjustment: Automatically adjusts the auto ID reference voltage.		Free run starts. Auto ID adjusted automatically.
57	Auto ID Voltage Value Display Displays voltage and K values. Press Start key to turn on. Press C/S to stop.		Machine starts free run. K = SP57/SP56
59	Bias Voltage: Displays bias voltage. Press Start key to turn on. Press C/S to stop.	V0: ID pattern V1: Developer bias	Without temperature compensation
60	Toner Density Recovery: After the Start key is pressed, the toner supply clutch turns on and free run starts. Free run stops and constant supply is reset when Vsp becomes 1/8 Vsg.	V0: Vsg V1: Vsp	Use this mode to bring a low toner condition back to normal. 100% is selected.
61	Idling Period Selection: Selects idling period at power-up.	0: 5 min. 1: 10 min. 2: 15 min	(Factory setting = 0)
71	Sorter/Finisher Operation: Enables sorter or finisher operation.	0: NO 1: Sorter 2: Finisher	(Factory setting = 0)
72	ARDF/RDH operation: Enables ARDF or RDH operation.	0: No 1: ARDF 2: RDH	(Factory setting = 0)
76	Sorter Bin Capacity: Sets the stack mode quantity limit.	0: No limit 1: Limit	Limit = 35 sheet/bin. Use with finisher. (Factory setting = 0)
77	Odd Number Duplex Copy: Sets the copier to eject the final copy if an odd number of originals are set.	0: Yes 1: No	When off, the final sheet is fed out; when on, it stays in the duplex tray. (Factory setting = 0)
80	Clock set: Sets the machine clock.		Also accessible by the customer using the key board.

Mode No.	Function	Data	Comments
81	Weekly Timer Set: Programs machine to turn on/off each day of the week.		Also accessible by customer through keyboard.
82	Automatic Shutoff: Selects automatic shutoff time.	0: No 1: 30 min 2: 1 hour 3: 3 hours	(Factory setting = 0)
85	EM Call Phone Number: Sets phone # of service representative.		Use decimal key for a space.
86	PM Counter: Turns on PM counter.	0: No 1: Yes	(Factory setting = 0)
87	PM Copy Count: Sets PM counter interval.	0: 80 k 1: 60 k 2: 100 k	(Factory setting = 0)
88	PM Counter Check: Displays contents of PM counter.		When the PM count is exceeded, the Service Call indicator blinks.
89	PM Counter Reset: Resets PM counter	0: No 1: Yes	Use after performing PM.
90	User Code Mode: Selects user code mode. (Key counter shorting connector must be removed.)	0: No 1: Yes	If ON, a code must be entered to copy. See user code table. Reset after 60 sec. or if C/S and Clear modes pressed together. Accessible through key board. (Factory setting = 0)
91	User Code Counter Check: Displays contents of each user counter.		User counters count from 0 to 99999. Accessible through keyboard.
92	User Code Counter Reset: Resets user's counters. Use + and - keys to select the user code. To reset press "1", then #.	0: No 1: Yes	Accessible through keyboard.
93	Maximum Copy Quantity: Sets maximum enterable copy quantity.		The indicator blinks and the max. quantity is displayed. If "0" is entered, max. is 999. Otherwise, max. is number entered. (Factory setting = 0)
97	Clear S/C & Jam count: Clears service call and jam counters.	0: No 1: Yes	DIP SW 801-7 must be on. (Factory setting = 0)

Mode No.	Function	Data	Comments
98	Clear Counters: Clears the following counters: total copies, S/C & Jam, Job Program, PM counter, Service Tel. #, User Code Counter.	0: No 1: Yes	DIP SW 801-7 must be on.
99	Clear All Memory: Clears all counters and returns all modes to factory setting.	0: No 1: Yes	DIP SW100-8 (Main board) and DIP SW 801-7 on the operation panel must be ON. (Factory setting = 0)
100	Main Motor ON Time Check: Displays the total (accumulated) time that the main motor has operated.		Time In hours (Factory setting = 0)
101	Total Copies: Displays the total number of copies.		(Factory setting = 0)
102	Duplex Copies: Displays the total number of duplex copies made.		(Factory setting = 0)
103	DF Copies: Displays the total number of copies made using the DF.		(Factory setting = 0)
104	Sort Copies: Displays the total number of copies made using the sorter.		(Factory setting = 0)
105	Cassette Bank Copies: Displays the total number of sheets fed from the cassette bank unit.		(Factory setting = 0)
106	LCT Copies: Displays the total number of sheets fed from the LCT.		(Factory setting = 0)
108	A3/11 x 17 Copies: Displays the total number of A3 or 11 x 17 copies.		(Factory setting = 0)
109	A4/8-1/2 x 11 Copies: Displays the total number of A4 or 8-1/2 x 11 copies.		(Factory setting = 0)
111	Reduction Copies: Displays the total number of reduction copies.		(Factory setting = 0)
112	Enlarged Copies: Displays the total number of enlarged copies.		(Factory setting = 0)
114	Originals Copied: Displays the total number of originals copied.		(Factory setting = 0)
115	Originals Copied Using DF: Displays the total number of originals copied using the DF.		(Factory setting = 0)

Mode No.	Function	Data	Comments
120	Total Service Calls: Displays the total number of times the Service Call indicator has turned on.		(Factory setting = 0)
121	Service Call Breakdown: Displays the total for each service call type using + and - keys.		(Factory setting = 0)
130	Paper Jams: Displays the total number of paper jams.		(Factory setting = 0)
131	Feed Jams: Displays the total number of entrance area paper jams.		(Factory setting = 0)
132	Fuser Jams: Displays the total number of fusing unit jams.		(Factory setting = 0)
133	Inverter Jams: Displays the total number of inverter unit jams.		(Factory setting = 0)
134	Duplex Jams: Displays the total number of duplex unit jams.		(Factory setting = 0)
135	Duplex Misfeeds: Displays the total number of duplex misfeeds.		(Factory setting = 0)
136	Exit Jams: Displays the total number of exit area jams.		(Factory setting = 0)
137	Cassette Bank Jams: Displays the total number of paper bank jams.		(Factory setting = 0)
138	Sorter Jams: Displays the total number of sorter jams.		(Factory setting = 0)
139	DF Jams: Displays the total number of DF jams.		(Factory setting = 0)

3.5 Language Code Table

DIP-801 345	Destinations & Paper Size	SP-12	SP-13
001	PITNEY BOWES (LT)	0: English 1: French	No Function
010	KALLE INFOTEC, RICOH EUROPE, RICOH ASIA/ MIDDLE EAST (A4)	No Function	Original / Option 0: Japanese / 0: Swedish 1: English / 1: English 2: French / 2: Danish 3: German / 3: Norwegian 4: Italian / 4: Finnish 5: Spanish / 5: Dutch
011	NASHUA SOUTH AMERICA (LT)	0: English 1: French	No Function
100	RICOH USA (LT)	0: English 1: French	No Function
101	SAVIN (LT)	0: English 1: French	No Function
110	RICOH TAIWAN (A4)	No Function	Same as Ricoh Europe **NOTE: When language selection is required, turn off DIP-801-3.**
111	NASHUA EUROPE (A4)	No Function	Original / Option 0: Japanese / 0: Swedish 1: English / 1: English 2: French / 2: Danish 3: German / 3: Norwegian 4: Italian / 4: Finnish

4. SPECIAL TOOLS AND LUBRICANTS

Item	Description	Part No.	Q'ty
1	Test Chart OS-A3 -- 10 sheets 100 sheets	5420 9516 5420 9502	1
2	Digital Thermometer (HLC-60E)	5420 9504	1
3	Digital Thermometer Probe (HLC-60E)	5420 9505	1
4	Digital Multimeter (BECKMAN RMS 3030)	5420 9507	1
5	Test Lead Kit (BECKMAN DL241)	5420 9508	1
6	Drum Shoe	5442 9106	1
7	Shoe Adaptor	5447 9104	1
8	Omega Clamp	5205 9111	2
9	Thickness Gauge - 0.2 mm	5446 9140	1
10	Thickness Gauge - 0.71/0.86 mm	A007 9504	1
11	Setting Powder	5442 9101	1
12	Silicone Oil	5420 9550	1
13	Launa 40 Oil	5442 9103	1
14	Grease (MOBIL TEMP 78) 400g	5447 9078	1
15	Silicone Grease (G40M)	A008 9502	1

5. SERVICE REMARKS

5.1 Handling The Drum

1. Never touch the drum surface with bare hands.
2. Store the drum in a cool dry place.
3. Always wear gloves when cleaning the drum.
4. Prime the drum with setting powder only when the cleaning blade, cleaning brush, and drum are replaced as a set.
5. Never expose the drum to light for a long time.
6. Always keep the drum in the protective sleeve when inserting or pulling the drum out of the copier.
7. Drum conditioning is necessary when a new drum is installed. In addition, it should be done at the following times:
   a) When image density is reduced due to overexposure of the drum.
   b) After cleaning the drum.
   c) When the drum is lightly scratched.
8. Before inserting or sliding out the drum, the cleaning unit should be removed to avoid drum damage. When pulling out the cleaning unit, press the drum shaft slightly to the left.
9. Return used drums to the distributor according to standard procedure.

5.2 Charge Corona

1. Do not use emery paper to clean the corona wire; this abrades the wire coating.
2. Do not touch the corona wire with oily hands. Oil stains may cause white bands on copies.
3. The corona wire height should be adjusted only when
   a) the front end block is replaced.
   b) the drum charge current is uneven.
4. Make sure that the corona wires are correctly positioned between the cleaner pads.

5.3 Erase Lamp

1. A narrower lead edge erase margin increases the possibility of fusing jams. The margin should be at least 1.0 mm.

2. After cleaning the erase lamp filter, rub it lightly with your finger to discharge any static electricity on the filter surface.

5.4 Optics

1. A small amount of launa oil should be used to lubricate the following parts:
   a) Scanner Guide Rods
   b) Scanner Guide Rod Pads
   c) Lens Housing Guide Rods
2. Clean the exposure glass with glass cleaner and a dry cloth to reduce the amount of static electricity on the glass surface.
3. Do not touch the following parts with bare hands:
   a) Reflectors
   b) Exposure lamps
   c) Mirrors and lens
4. Do not bend or crease the exposure lamp ribbon cable or the fiber cables.
5. The scanners are fragile, so to move one manually, push on the scanner guide bracket, not the scanner.
6. Do not touch the mirror surface with your fingers. When replacing a mirror, make sure the surface faces the optical path.
7. Even when the lamps are off, electricity continues to run through them. Make sure that the power is off when working in this area.
8. Only use water or a silicon cloth to clean the mirrors and the lens.

5.5 Development Unit

1. Do not force the development roller to turn opposite to the normal direction of rotation because this may damage the gears.
2. Be careful not to nick or scratch the development roller sleeve (made of aluminum).
3. Always check to make sure that there are no splits in the upper brush seal. Any splits at this location will cause toner scattering.
4. Always keep a sheet of paper under the development unit when it is out of the copier. This prevents any small pieces of metal (staples, clips, E-rings, etc.) from being attracted to the development roller and getting inside the unit.

5.6 Transfer and Separation Corona

1. Do not loosen the paint-locked screws holding the entrance mylar guide of the transfer and separation corona unit.

5.7 Cleaning Unit

1. Do not damage the cleaning blade edge. Clean the blade with a soft, clean cloth.
2. Do not touch the cleaning brush with oily hands.
3. Before pulling out the cleaning unit, place a sheet of paper under it to catch toner falling from the entrance mylar seal.
4. Before adjusting the cleaning blade pressure, check all other possible causes.

5.8 Pre-transfer and Quenching Unit

Clean the lamp filters with a clean damp cloth.

5.9 Fusing

1. When removing the fusing unit, keep it upright so that the silicone oil does not spill out.
2. After replacing the oil blade, oil supply pad, and hot roller, prime the top of the oil blade with silicone oil.
3. Be careful not to damage the edge of the hot roller strippers or their tension springs.
4. Be careful not to bend the pressure roller strippers.
5. Do not touch the fusing lamp with bare hands.
6. Make sure that the fusing lamp does not come into contact with the inner surface of the hot roller.
7. Make sure that the oil end sensor is touching the bottom of the oil tank.

5.10 Paper Feed and Duplex

1. Grease the following parts periodically with Mobil Temp 78 to reduce noise and improve operation:
   a. Upper, lower, and duplex separation roller slip clutches
   b. Upper and lower lift motor worm gears and worm wheels

2. Be careful not to damage the forks when removing the fork gate unit.
3. The rollers and the slip clutch for duplex and cassette feed are not interchangeable.
4. Be sure that the duplex transport belts are matte-side out when replacing them.
5. When reinstalling the support bracket, make sure that the bracket is properly engaged with the groove in the registration clutch stopper.

5.11 Optional Equipment

1. Before servicing the document feeder and/or sorter, make sure that the main switch on the copier is off.
2. Before servicing the large capacity tray, unplug the tray's power supply cord.

5.12 Handling PCBs

WARNING: The timer board has a lithium battery which can explode if handled incorrectly. Do not recharge, disassemble, or burn this battery. Used timer boards must be handled in accordance with local regulations.

SECTION 5

REPLACEMENT AND ADJUSTMENT

Contents

REPLACEMENT AND ADJUSTMENT

1. OPTICS 5-1

1.1 Exposure Glass Removal 5-1

1.2 Sixth Mirror Replacement 5-2

1.3 Scanner Drive Wire Replacement 5-4

1.4 Fourth and fifth Mirror Drive Wire Replacement 5-8

1.5 Lens Drive Wire Replacement 5-9

1.6 Scanner Harness Replacement (Optics Cables & Exposure Lamp) 5-10

2. DEVELOPMENT 5-12

2.1 Developer Replacement 5-12

2.2 Image Density Sensor Removal 5-14

2.3 Toner Collection Bottle Cleaning 5-15

2.4 Vsg Voltage Checking 5-16

2.5 Vsg Voltage Adjustment 5-17

2.6 Toner Supply System Checking 5-18

2.7 Toner Density Recovery 5-19

2.8 Fixed Supply Mode Selection 5-19

2.9 Toner Amount Changing 5-19

2.10 ID Pattern Bias Voltage Adjustment 5-19

3. CLEANING 5-20

3.1 1. Pick-off Pawl Replacement 5-20

3.2 Cleaning Blade and Brush Replacement 5-22

3.3 Blade Cleaner and Bias Roller Blade Replacement 5-23

4. FUSING 5-24

4.1 Fusing Unit Removal 5-24

4.2 Oil Blade Replacement 5-25

4.3 Thermistor Replacement 5-26

4.4 Thermofuse Replacement 5-27

4.5 Hot Roller Stripper Replacement 5-28

4.6 Hot Roller Replacement 5-29

4.7 Pressure Roller Replacement 5-32

4.8 Entrance Guide Height Adjustment 5-33

4.9 Fusing Pressure Adjustment 5-34
4.10 Hot Roller Temperature Adjustment 5-35
4.11 Idling Period Selection 5-35

5. PAPER FEED 5-36

5.1 Pick-up, Paper Feed and Separation Roller Replacement 5-36
5.2 Transport Unit Removal 5-37

6. DUPLEX 5-39

6.1 Invertor Unit Removal 5-39
6.2 Duplex Transport and Fork Gate Units Removal 5-40
6.3 Jogger Unit Removal 5-42
6.4 Duplex Pick-up and Feed Roller Replacement 5-43
6.5 Duplex Separation Roller Replacement 5-44
6.6 Positioning and Entrance Actuator Rollers Replacement 5-45
6.7 Duplex Pick-up Solenoid Adjustment 5-46
6.8 Jogger Wire Replacement 5-47

7. COPY IMAGE 5-49

7.1 Vertical Magnification Adjustment 5-49
7.2 Horizontal Magnification 5-50
7.3 Focus Adjustment 5-51
7.4 Uneven Exposure Adjustment 5-52
7.5 Light Intensity Adjustment 5-53
7.6 ADS Reference Voltage Setting 5-54
7.7 ADS Voltage Adjustment 5-55
7.8 ADS Operation Checking 5-56
7.9 Erase Adjustment 5-56
7.10 Registration Adjustment 5-57
7.11 Side-to-Side Registration Adjustment 5-58

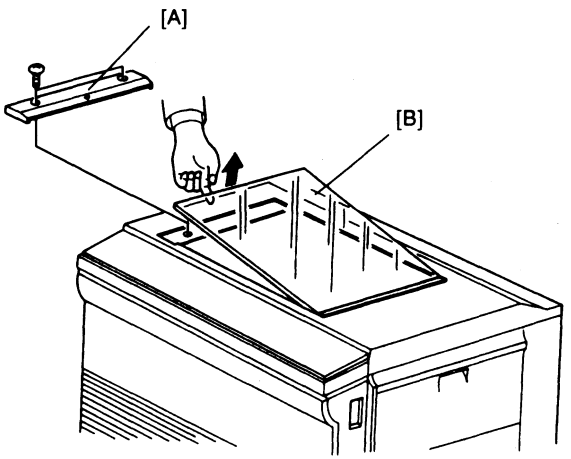
8. CORONA 5-59

8.1 Charge Corona Wire Replacement 5-59
8.2 Pre-quenching Corona Wire Replacement 5-61
8.3 Transfer and Separation Corona Wires Replacement 5-62
8.4 Charge Cleaner Drive Wire Replacement 5-63
8.5 TC/SC Cleaner Drive Wire Replacement 5-64
8.6 Drum Current Adjustment Preparation 5-65

8.7 Charge Corona Current Adjustment 5-67
8.8 Transfer Corona Current Adjustment 5-68
8.9 Separation Corona Current Adjustment 5-69
8.10 Pre-Cleaning Corona Current Adjustment 5-71
8.11 Pre-Quenching Corona Current Adjustment 5-72
9. OTHERS 5-73
9.1 Power Supply Unit Removal 5-73

1. OPTICS

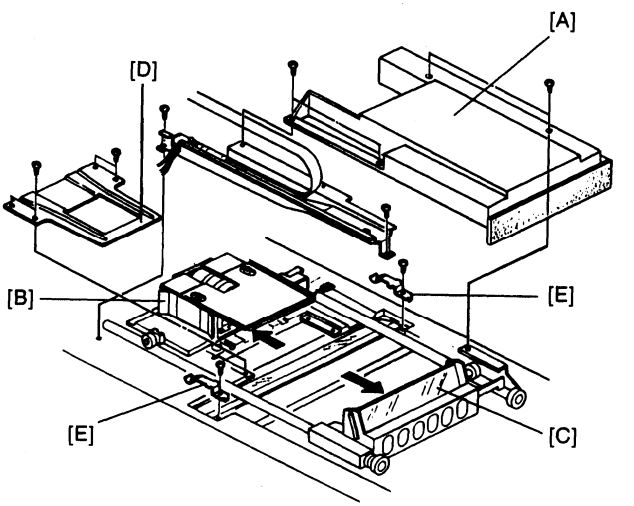
1.1 Exposure Glass Removal



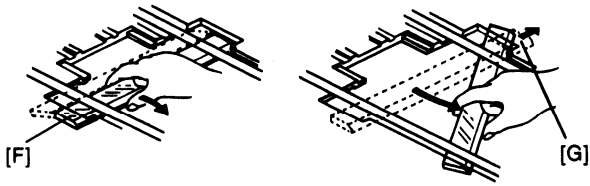
1. Remove the left scale [A] (2 short screws).
2. Grasp the left edge of the exposure glass [B] and lift it up slightly. Slide the other edge out from under the right glass holder. Remove the exposure glass.

NOTE: When reinstalling the exposure glass:
- Make sure that the left edge of the glass is flush with the two tabs to the left on the scale plate.
- Make sure that the right glass holder firmly secures the exposure glass.

1.2 Sixth Mirror Replacement

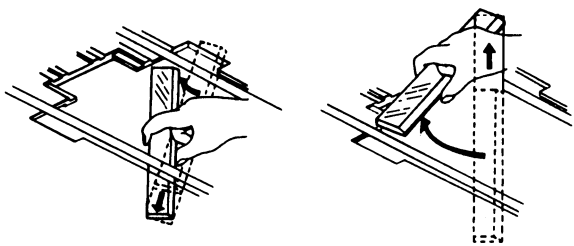


1. Remove the exposure glass. (Refer to “Exposure Glass Removal.”)
2. Remove the lens housing cover [A] (4 screws). Then, shift the lens housing [B] fully to the left and the 4th/5th mirror assembly [C] to the right.
3. Remove the sliding plate [D] (4 screws), and remove the plate springs [E] from both ends of the sixth mirror (1 screw each).



4. Remove the sixth mirror as follows:

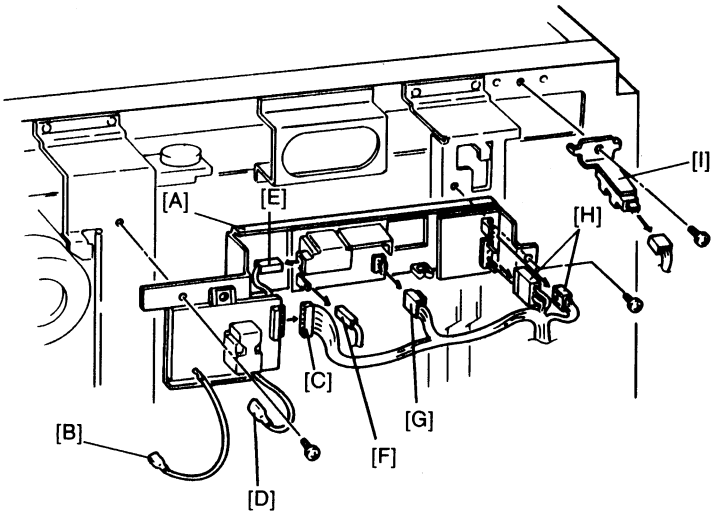
   (1) Slide the sixth mirror [F] to the right.
   (2) Push it into the groove [G] at the rear.



   (3) Swing the front end to the right.
   (4) Pull it towards the front.
   (5) Swing the rear end to the left.
   (6) Push it towards the rear.
   (7) Remove it from the front.

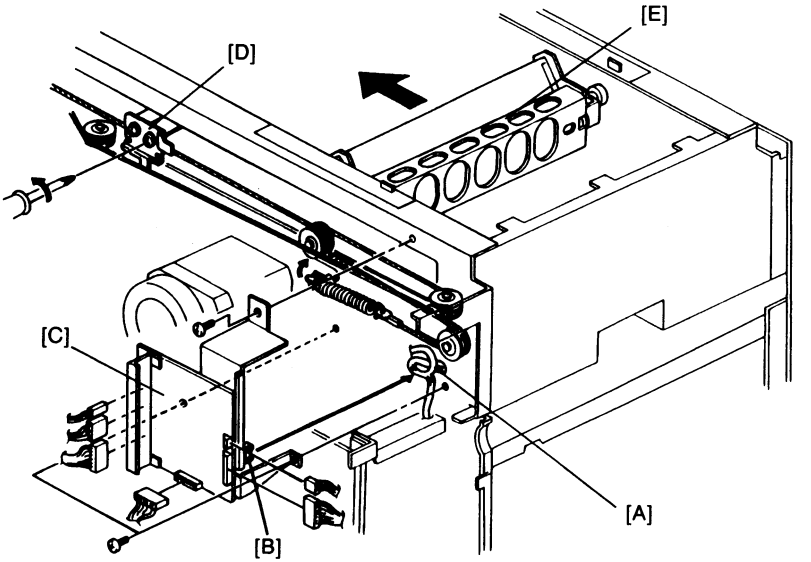
5. Replace the sixth mirror. (While installing a new mirror, do not touch its surface with bare hands.)

1.3 Scanner Drive Wire Replacement

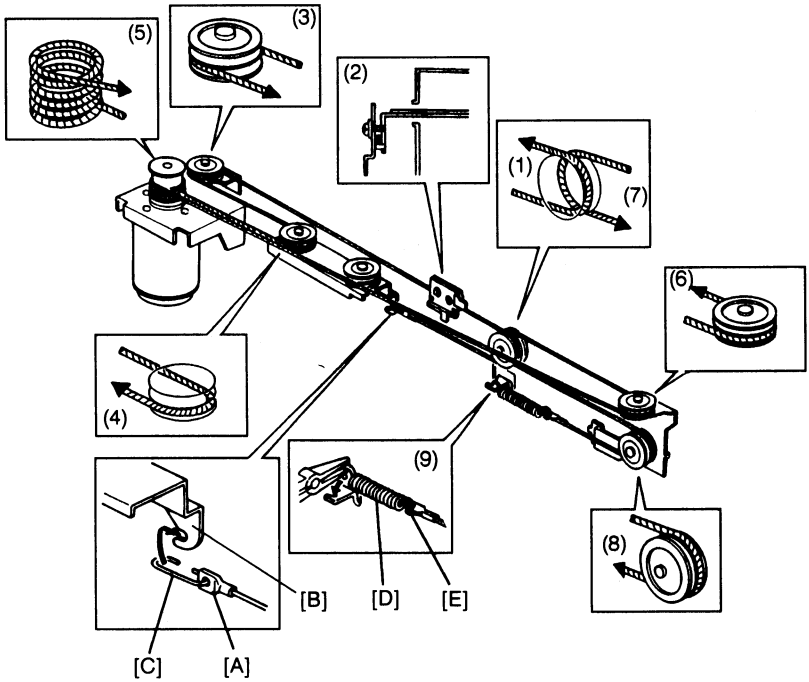


1. Remove the exposure glass. (Refer to “Exposure Glass Removal.”) Then, remove the top cover (9 screws).
2. Disconnect the following connectors from the power pack bracket (C/B, Q/CB, SSR) [A]:

   Development Bias [B]
   White 11P [C]
   Charge Corona [D]
   Quenching [E], cleaning bias [F] and white 4P [G]
   Two white 3P [H]
3. Remove the power pack bracket (C/B, Q/CB, SSR) (2 screws).
4. Remove the home position sensor with the bracket [I] (1 screw).



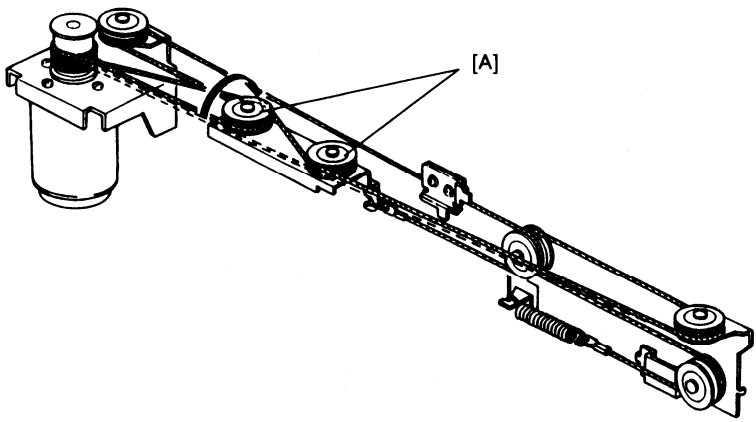
5. Remove the harness [A] from the clamp [B] inserted in the rear side of the optics control PCB bracket [C]. Then, remove the optics control PCB with the bracket (8 connectors, 3 screws).
6. Loosen the first scanner wire clamp [D] (2 screws), and remove the old wire. Then, slide the second scanner [E] all the way to the left (rear view).



7. Hook one end of the wire [A] on the anchor [B] using the ring [C].

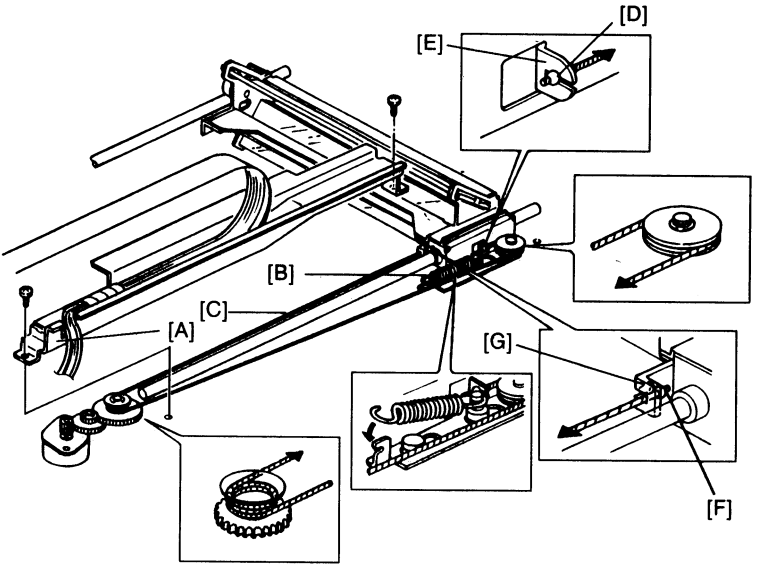
8. Route the scanner wire in the following order:

   (1) Outer track counterclockwise.
   (2) Below securing screws.
   (3) Lower track counterclockwise.
   (4) Lower track clockwise.
   (5) From lower to upper 5.5 times counterclockwise.
   (6) Lower track counterclockwise.
   (7) Inner track counterclockwise.
   (8) Inner track clockwise.
   (9) Hook the wire to the anchor with the spring [D] and the ring [E].



9. Thread the wire between the two pulleys [A].
10. Position the first and second scanners according to the adjustment table, and secure the first scanner wire clamp (rough adjustment of the horizontal magnification).
11. Adjust the horizontal magnification using SP 44. (Refer to “Horizontal Magnification Adjustment.”)
12. Adjust the focus with SP 47. (Refer to “Focus Adjustment.”)
13. Reassemble.

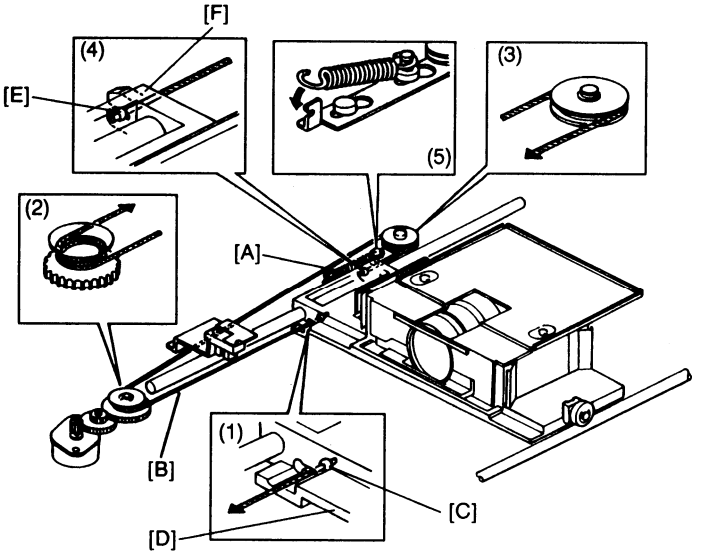
1.4 Fourth and fifth Mirror Drive Wire Replacement



1. Remove the exposure glass. (Refer to “Exposure Glass Removal.”) Then, remove the top cover (9 screws), the lens housing cover (4 screws), and the exposure harness guide plate [A] (2 screws).
2. Remove the tension spring [B] and the old wire [C].
3. Route the wire in the following order:

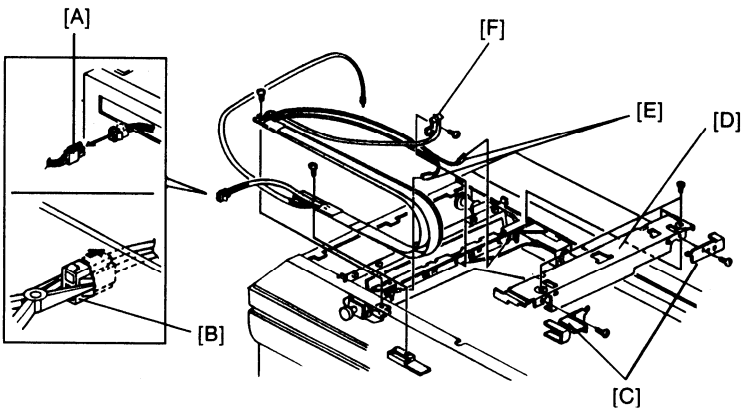
   (1) Hook one end of the wire [D] into the anchor point [E] on the fourth and fifth mirror assembly (near the tension pulley).
   (2) Wrap the wire clockwise around the tension pulley.
   (3) From lower to upper, wrap the wire 2.5 times clockwise around the drive pulley.
   (4) Hook the other end of the wire [F] onto the fourth and fifth mirror assembly [G].
   (5) Hook up the tension spring and reassemble.

1.5 Lens Drive Wire Replacement



1. Remove the exposure glass. (Refer to “Exposure Glass Removal.”) Then, remove the lens housing cover (4 screws).
2. Remove the tension spring [A] and the old wire [B].
3. Route the wire in the following order:
   (1) Hook one end of the wire [C] onto the front of the lens housing [D].
   (2) From lower to upper wrap the drive wire 2.5 times clockwise around the drive pulley.
   (3) Wrap it clockwise around the tension pulley.
   (4) Hook the other end of the wire [E] onto lens housing [F].
   (5) Hook up the tension spring and reassemble.

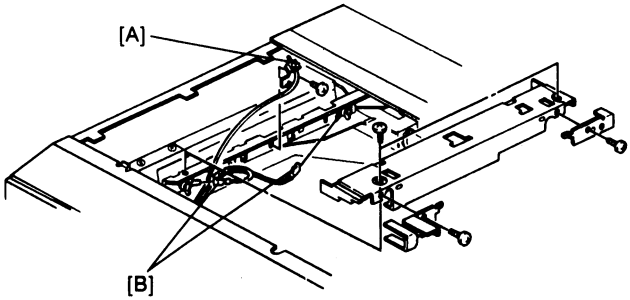
1.6 Scanner Harness Replacement (Optics Cables & Exposure Lamp)

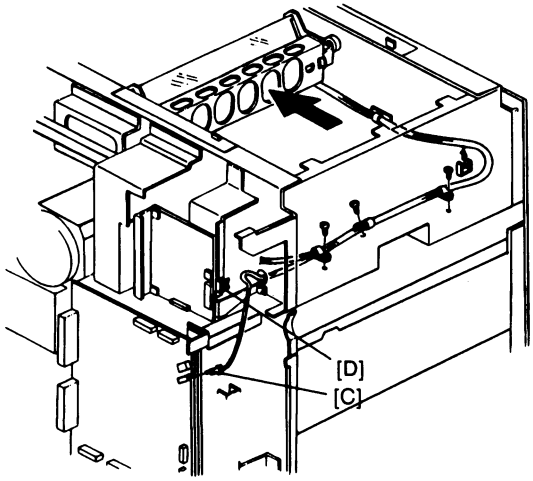


1. Remove the rear and left covers (2 screws each). Then, remove the exposure glass. (Refer to "Exposure Glass Removal.")
2. Open the front cover, and remove the left inner cover. Then, disconnect the exposure lamp connector [A] (white 2P connector), and push the female half of the connector [B] through the frame into the optics cavity.
3. Remove the front and rear lamp terminal covers [C] (1 screw each). Then, remove the reflector cover [D] (2 screws).

NOTE: Do not touch the surface of the reflector.

4. Disconnect the front and rear lamp terminals [E]. Then, remove the auto ID sensor with the bracket [F] (1 screw).

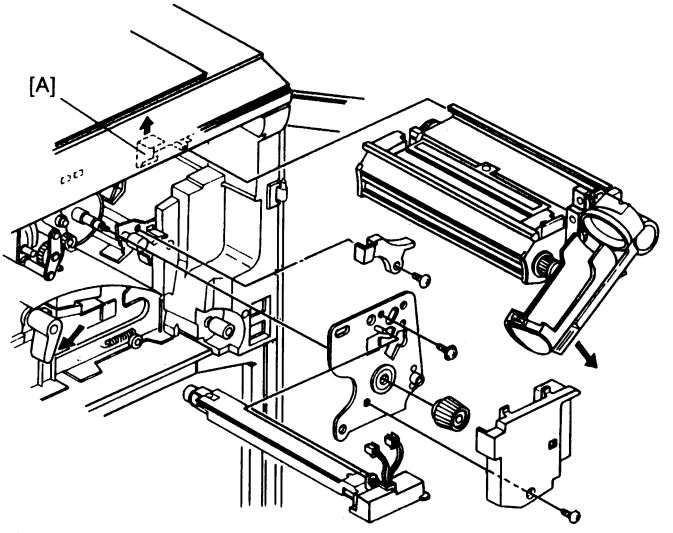




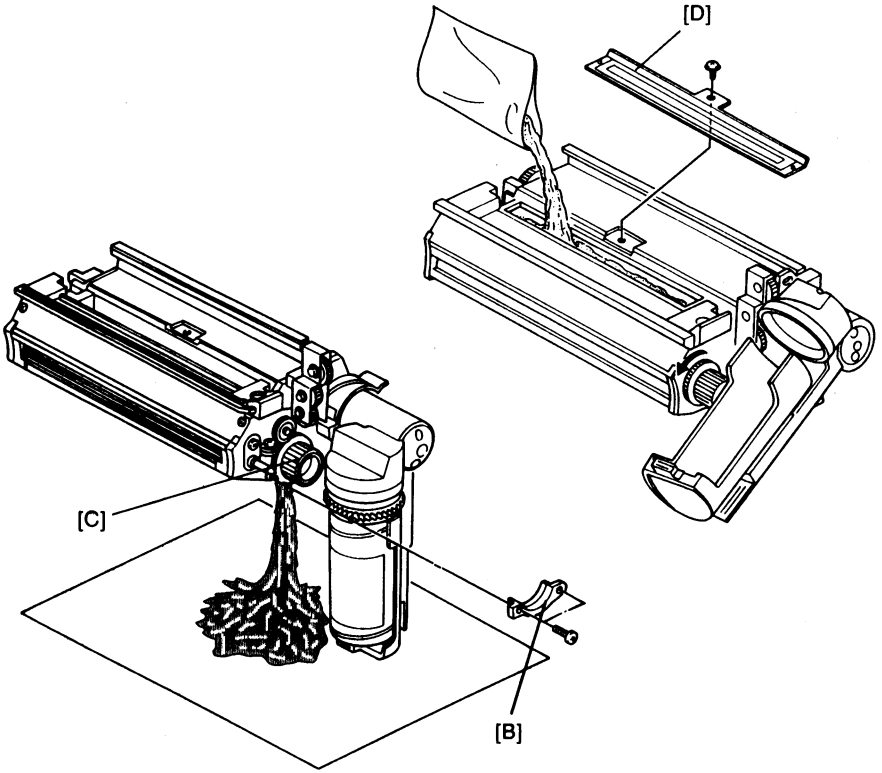
5. Remove the fiber optics cable [A] with the exposure lamp harness [B] from the clamps in the optics cavity (4 screws).
6. Disconnect the ADS cable [C] from the main PCB (CN111). Then, remove the cable from the clamp [D] on the back of the optics PCB bracket.
7. Replace the scanner harness, and reassemble.

2. DEVELOPMENT

2.1 Developer Replacement



1. Raise the development unit release lever [A] and take out the development unit. Then, place it on a sheet of paper.

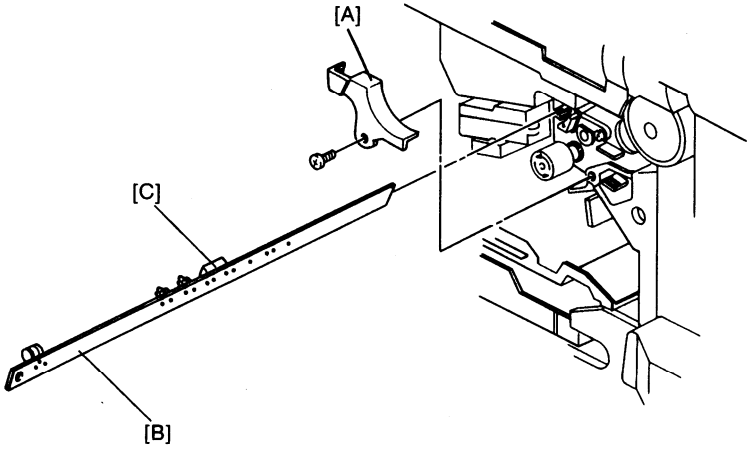


2. Carefully remove the developer exchange plate [B] (2 screws).

CAUTION: Developer pours out quickly.

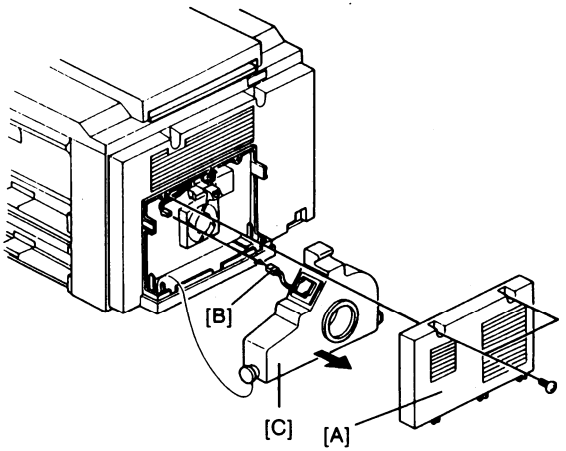
3. Rotate the paddle roller knob [C] counterclockwise to remove all the developer. Then, reinstall the developer exchange plate.
4. Remove the developer inlet cover [D] (1 screw), and pour one kilogram of developer into the development unit while rotating the paddle roller knob to evenly distribute the developer.
5. Reassemble.

2.2 Image Density Sensor Removal



1. Open the front cover.
2. Remove the image density cover [A] (1 screw).
3. Slide out the image density sensor [B].
4. Clean or replace the sensor [C].

2.3 Toner Collection Bottle Cleaning



1. Remove the toner collection bottle cover [A] (2 screws).
2. Disconnect the toner overflow sensor connector [B], and remove the bottle [C].
3. Remove the stopper from the toner collection bottle to clean out the toner.

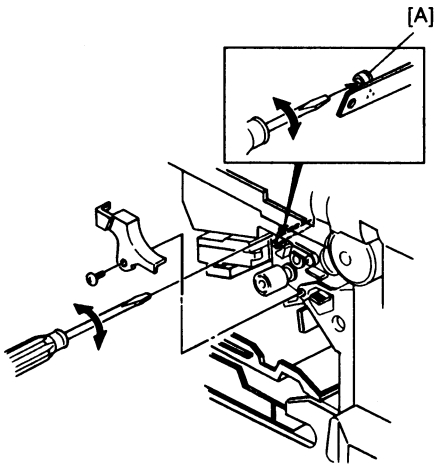
2.4 Vsg Voltage Checking

When:	Every call (especially if the drum is changed)
Purpose:	To confirm operation of ID sensor mode
Target:	Vsg = 4.00 ± 0.20 volts
Measure:	SP 54
How:	Vsg is displayed on the guidance display for ten seconds.

1. Remove the ID sensor PCB. (Refer to “ID Sensor Replacement.”)
2. Clean the ID sensor.
3. Reinstall the ID sensor PCB, then check Vsg using SP 54.

2.5 Vsg Voltage Adjustment

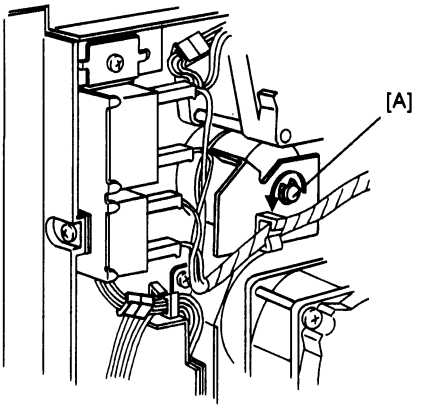
When:	Vsg is not within specifications. After replacing either ID sensor PCB or main PCB
Purpose:	To make sure that ID sensor mode works correctly
Target:	Vsg = 4.00 ± 0.20 volts
Measure:	VR 1 on ID sensor PCB
How:	Changes light intensity of ID sensor LED



1. Do steps 1 and 2 of “Vsg Voltage Checking.”
2. Turn VR 1 [A] on the ID sensor PCB to adjust the Vsg voltage. (Turn clockwise to increase the voltage.) At the same time, check Vsg with SP 54.

2.6 Toner Supply System Checking

When: Toner is not being supplied in correct amounts.
Purpose: To see if the ID sensor is causing the problem.
Target: The Toner supply clutch turns on when Vsp is greater than one eigth of Vsg.
Measure: SP 55
How: Vsp and Vsg are displayed on the guidance display. These readings change every ten copies. ("V0" is Vsg, "V1" is Vsp.)



1. Remove the rear cover (2 screws).
2. Set SP 55, and read Vsg and Vsp.
3. Divide the Vsg reading by eight. (While copying is in progress, the toner supply clutch should turn on when Vsp is greater than one eighth of Vsg.)
4. While making twenty copies of an A3/LDG original, verify that the toner supply clutch [A] turns on when Vsp is greater than one eigth of Vsg.

2.7 Toner Density Recovery

When: Vsp is extremely high (toner density low).
Purpose: To maintain correct toner density
Target: Vsp < 0.5 volts
Measure: SP 60
How: The copier runs and the toner supply clutch turns on (100%) until Vsp falls below 0.5 volts. Vsp and Vsg are displayed on the guidance display. ("V0" is Vsg, "V1" is Vsp)

1. Set SP 60, then press the Enter key and the Start key.

2.8 Fixed Supply Mode Selection

When: A problem with the ID sensing system cannot be corrected during a service call. (Detect supply mode does not function.)
Purpose: To leave Detect mode and manually turn on the toner supply system
Target: Fixed supply mode
Measure: SP 30
How: Turns on the toner supply clutch every copy cycle.

1. Set SP 30 to select fixed supply mode.

2.9 Toner Amount Changing

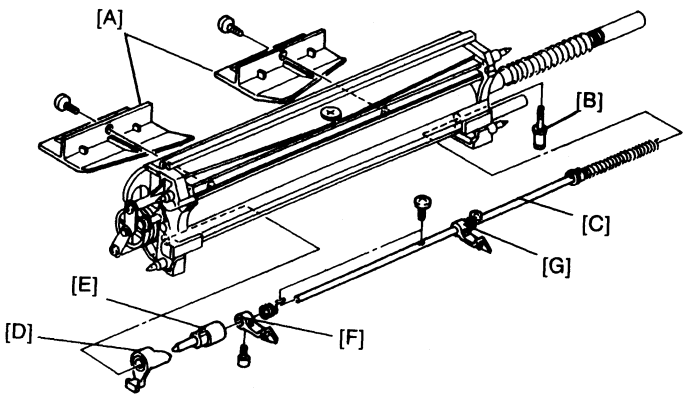
When: The factory setting for toner supply amount (30%) is not appropriate for the type of originals in use.
Purpose: To adjust the toner supply amount
Target: Detect mode: 30 (factory setting), 15, 45, or 60%
Fixed mode: 7, 4, 11, or 14%
Measure: Detect Mode: SP 31 Fixed Mode: SP 32
How: Changes the toner supply clutch on period.

2.10 ID Pattern Bias Voltage Adjustment

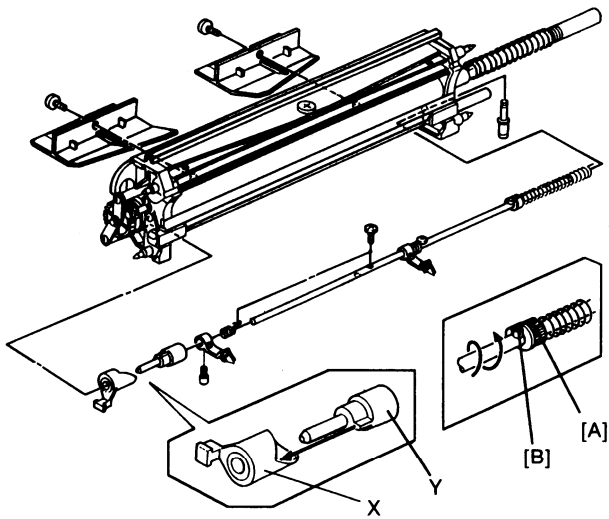
When: Customer wants to change the overall image density of the copies.
Purpose: To change toner concentration inside development unit.
Target: Bias Voltage = 500 (factory setting), 380 (lightest) 470 (light), 530 (dark)
Measure: SP 33
How: Changes the ID pattern bias voltage and either raises/lowers the toner supply threshold.

3. CLEANING

3.1 1. Pick-off Pawl Replacement



1. Remove the pick-off guide plates [A] (1 screw each).
2. Remove the pawl shaft pin [B] from the pawl shaft [C].
3. Push the pawl shaft to the rear and slide the cam holder [D] off the front side plate.
4. Remove the complete pawl shaft assembly.
5. Slide off the cam holder and cam rider [E].
6. Slide off the front pick-off pawl [F] (1 screw).
7. Slide off the rear pick-off pawl [G] (1 positioning pin).
8. Place the new pick-off pawls on the shaft and position them with the positioning pins and pawl springs.



9. Assemble the pawl shaft assembly and slide it into the cleaning unit until the shaft touches the rear side plate.

NOTE: When installing the cam holder and the cam rider, align X and Y as shown in the figure.
Make sure that the end of the spring is in the small hole on the rear side plate.

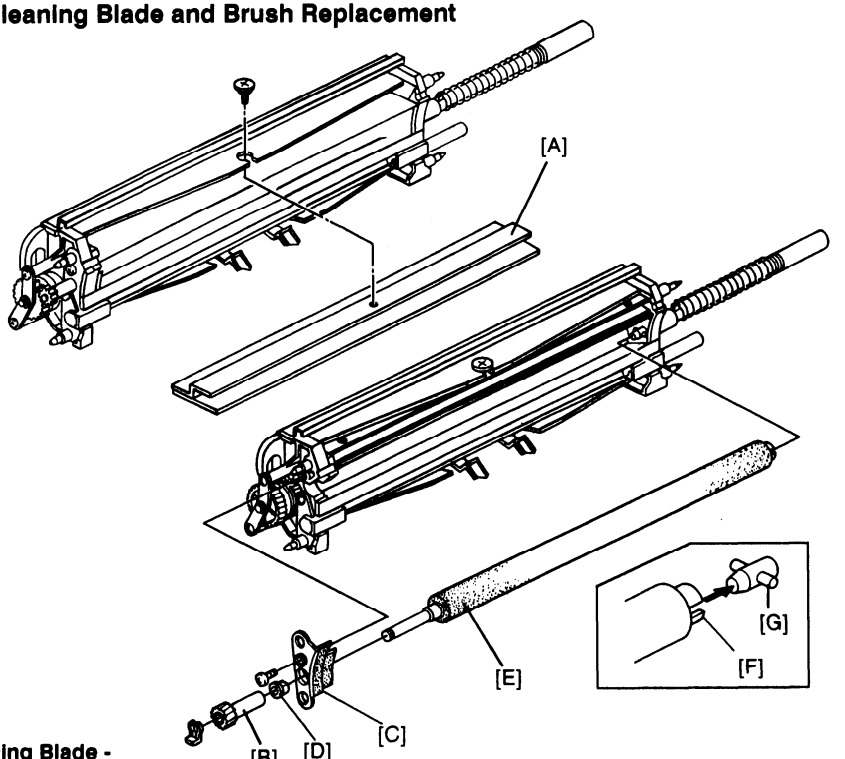
10. Install the pawl shaft pin.

11. Push the spring collar [A] to the rear and rotate it twice as shown in the figure. Set the collar on the pin [B].

NOTE: Make sure that the end of the spring is correctly positioned in the groove of the collar.

12. Reassemble.

3.2 Cleaning Blade and Brush Replacement



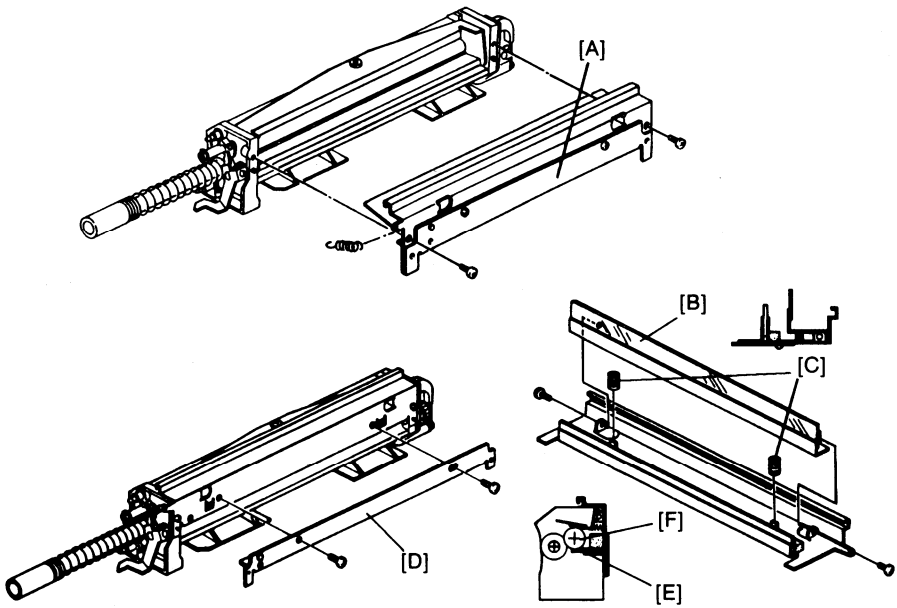
- Cleaning Blade -

1. Take out the cleaning unit.
2. Replace the cleaning blade [A] (1 screw). (Be careful not to touch the edge of the new blade.) (Apply setting powder or toner to the new blade's surface before installing.)
3. Reassemble. After installing the blade, make sure that the blade swivels.

- Cleaning Brush -

1. Remove the brush drive shaft [B] (1 snap ring) and the brush shaft holder [C] together with the bushing [D] (1 screw).
2. Replace the cleaning brush [E]. Do not touch the brush with bare hands as this may reduce its conductivity. Make sure the notch of the cleaning brush [F] is fitted properly over the positioning pins [G] of the rear spindle.

3.3 Blade Cleaner and Bias Roller Blade Replacement



- Blade Cleaner -

1. Remove the blade assembly [A] (2 screws, 1 spring).
2. Remove the old blade cleaner [B] (1 screw).
3. Install the new blade cleaner. Make sure that the springs [C] are set properly.

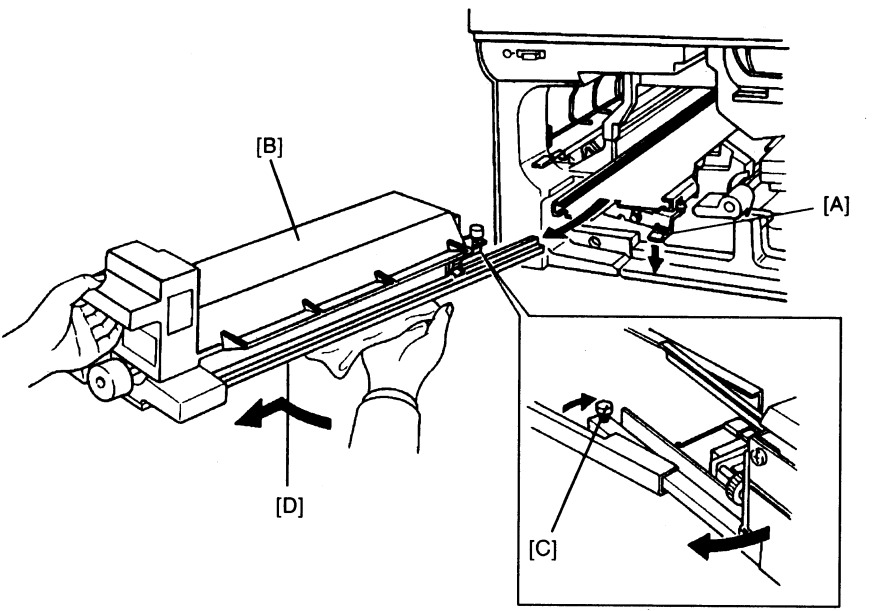
- Bias Roller Blade -

1. Remove the old bias roller blade [D] (2 screws).
2. Install the new bias roller blade.

CAUTION: When reassembling, make sure the bias roller blade [E] is inserted under the bias roller [F].

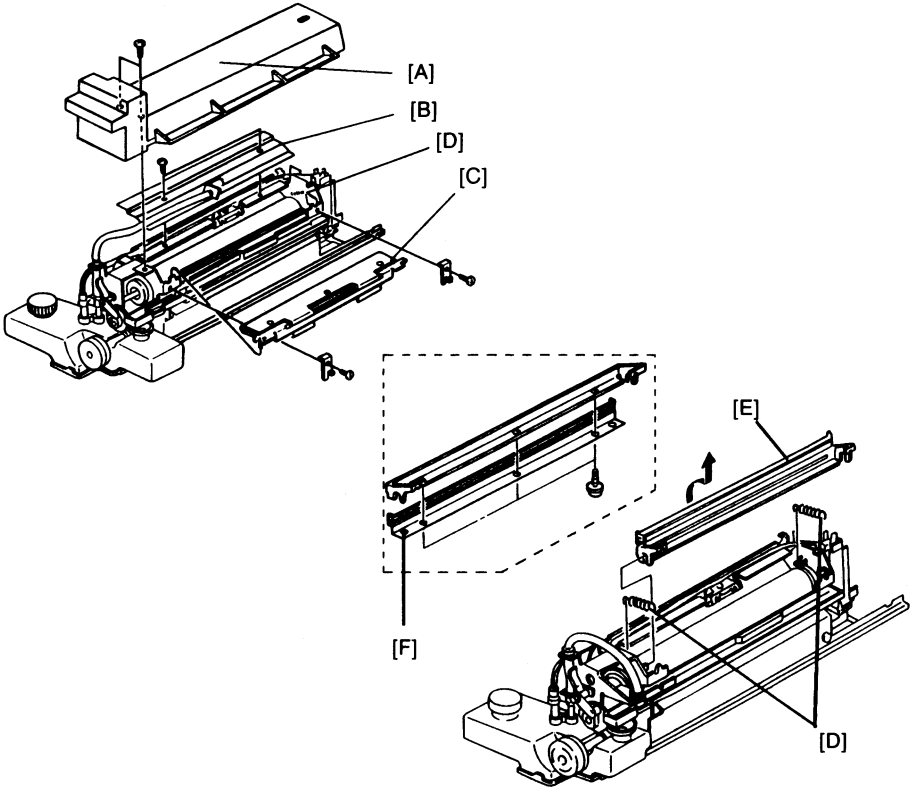
4. FUSING

4.1 Fusing Unit Removal



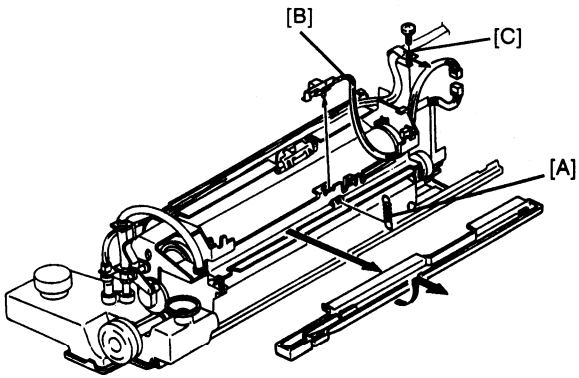
1. Open the front cover.
2. Push down the fusing unit release lever [A], and pull the fusing unit [B] all the way out.
3. Move the fusing unit to the left to disengage the stopper [C], and remove the unit from the copier. (The base plate [D] of the fusing unit is hot; do not touch it with bare hands.)

4.2 Oil Blade Replacement



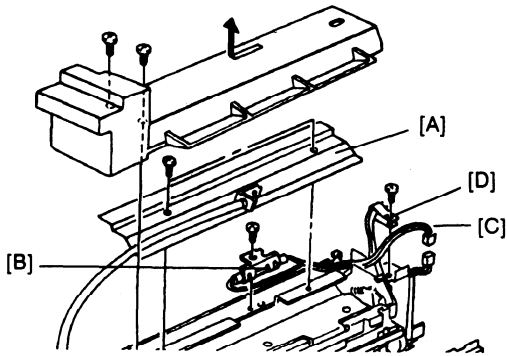
1. Remove the fusing unit. (Refer to “Fusing Unit Removal.”)
2. Remove the fusing unit cover [A] (3 screws), and remove the pressure plate [B] (2 screws).
3. Remove the oil supply pad [C] (2 screws and 2 clamp plates), and unhook the two tension springs [D].
4. Turn and remove the oil blade assembly [E].
5. Remove the three screws from the oil blade assembly and remove the oil blade [F].
6. Replace the oil blade.

4.3 Thermistor Replacement



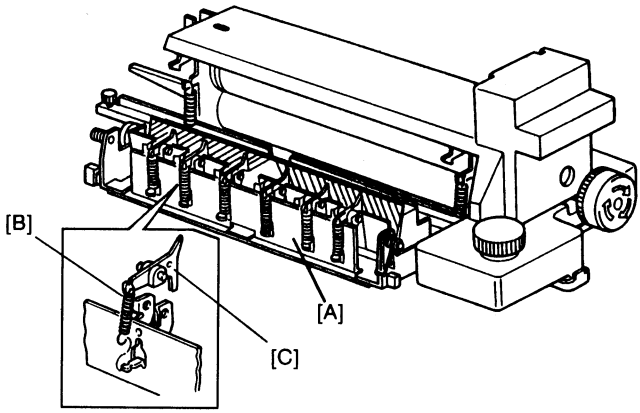
1. Remove the oil blade. (Refer to “Oil Blade Replacement.”)
2. Unhook the thermistor spring [A].
3. Remove the thermistor wire [B] from the metal wire clamp [C] (1 screw) and replace the thermistor (1 connector).
4. Reassemble.

4.4 Thermofuse Replacement



1. Remove the fusing unit. (Refer to “Fusing Unit Removal.”)
2. Remove the fusing unit cover (3 screws).
3. Remove the pressure plate [A] (2 screws) and the thermofuse bracket [B] (1 screw).
4. Remove the thermofuse lead wire [C] from the metal wire clamp [D] (1 screw).
5. Replace the thermofuse (1 connector), and reassemble.

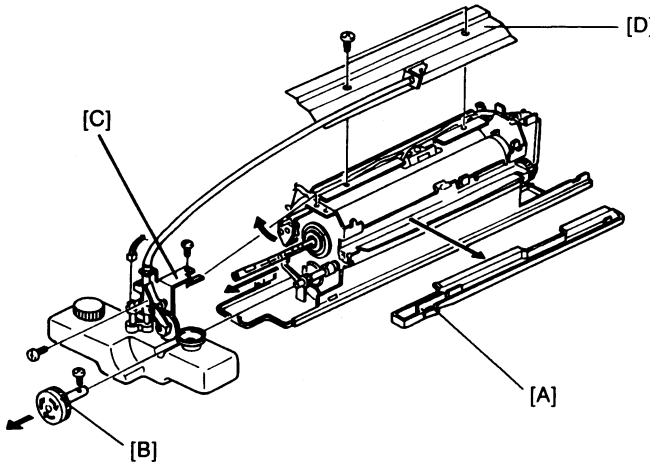
4.5 Hot Roller Stripper Replacement



1. Pull the fusing unit all the way out, and open the fusing exit assembly [A].
2. Unhook the springs [B], and remove the hot roller strippers [C].
3. Replace the strippers, and reassemble.

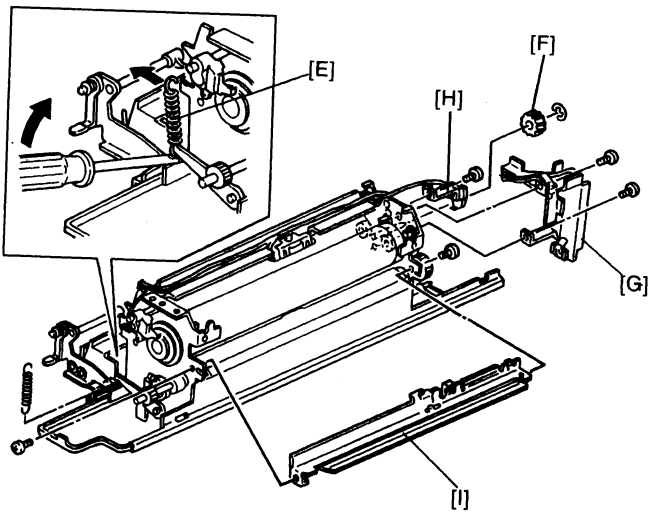
NOTE: It is best to replace strippers and springs as a set.

4.6 Hot Roller Replacement

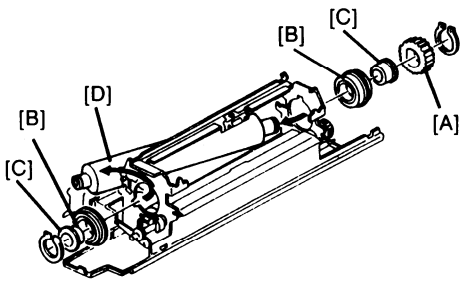


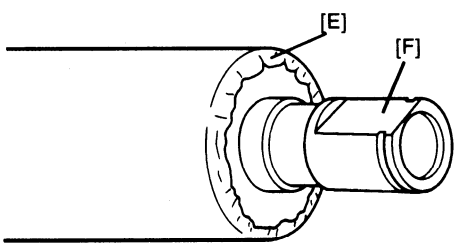
1. Remove the oil blade. (Refer to “Oil Blade Replacement.”)
2. Remove any excess oil from the oil sump area [A], and remove the oil sump.
3. Remove the fusing unit knob [B] (1 screw).
4. Remove the oil pump mechanism [C] with the oil tank (2 screws) and the pressure plate [D] (2 screws).
5. Rotate the front lamp terminal clockwise and remove the fusing lamp.

NOTE: Do not touch the lamp with your hands because skin oil may discolor the lamp.



6. Swing down the fusing exit assembly and unhook the pressure springs [E].
7. Remove the gear [F] (1 E-ring), and remove the harness support bracket [G] (2 screws and 2 hooks). Then, remove the rear lamp terminal [H] (1 screw and 1 hook).
8. Remove the thermistor bracket [I] (2 screws).

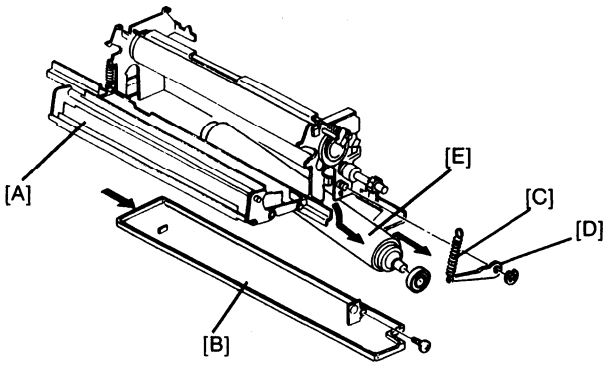




9. Remove the hot roller gear [A] and bearings [B] and collars [C] from both ends of the hot roller [D] (1 C-ring each).
10. Slide the hot roller slightly to the rear and remove the hot roller as shown.
11. Tear the protective paper [E] from the ends of the new hot roller [F] and install the roller.
12. After installing the new hot roller, remove the remaining protective paper.

NOTE: When reinstalling the fusing lamp, make sure it does not touch the inside of the hot roller.

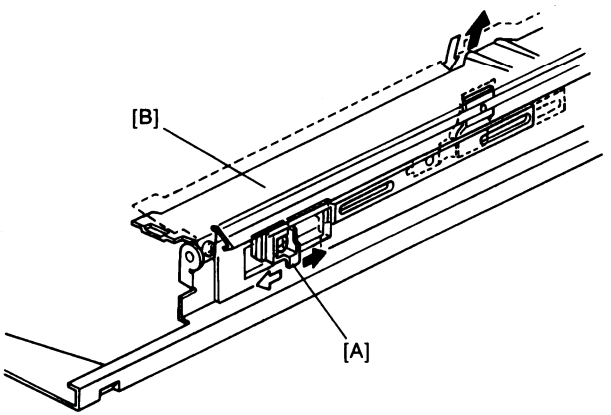
4.7 Pressure Roller Replacement



1. Perform steps 1 through 4 of “Hot Roller Replacement.”
2. Open and remove the fusing exit assembly [A] (1 E-ring and 1 connector).
3. Remove the oil pan [B] (4 screws and 4 hooks).
4. Remove the front pressure spring [C], and remove the front pressure lever [D] (1 E-ring).
5. Lift up the upper part of the fusing unit and remove the pressure roller [E].
6. Install the bearings on the new pressure roller and reassemble.

4.8 Entrance Guide Height Adjustment

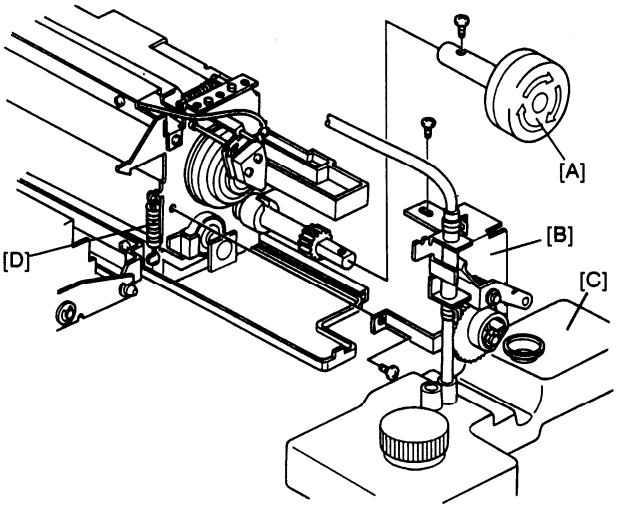
When:	Misfeeds with thick paper or paper creasing with thin paper occur.
Purpose:	To satisfy customer's applications (exceptionally thick or thin paper).
Target:	No misfeeds and no creasing
Measure:	Height Adjusting Lever Upper position = Thin paper Lower Position = Thick paper
How:	Changes the angle of incidence of the paper when it contacts the hot roller surface.

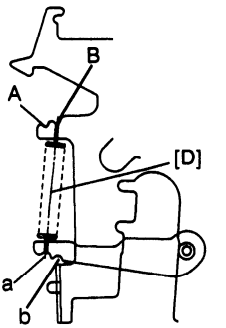


1. Pull the fusing unit all the way out.
2. Move the height adjusting lever [A] to the rear to raise the fusing guide plate [B] or to the front to lower the plate. (The fusing guide plate can be raised or lowered 1 mm.) The upper position prevents creasing with thin paper, and the lower position prevents misfeeds with thick paper.

4.9 Fusing Pressure Adjustment

When: Unfused copy with thick paper or paper curl with thin paper occurs.
Target: Well fused copy without curl
Measure: Adjust the position of the fusing pressure spring (three settings).
How: Changes the distance between upper and lower fusing pressure levers.





1. Remove the fusing unit. (Refer to “Fusing Unit Removal.”)
2. Remove the fusing unit cover (2 screws).
3. Remove the fusing unit knob [A] (1 screw).
4. Remove the oil pump mechanism [B] with the oil tank [C] (2 screws, 1 connector).
5. Move the pressure springs [D] to the desired position. (See the following table.)

Position	Nip Width	Spring Pressure
A -- a	7.2 mm	40 kg (Normal/Factory setting)
A -- b	6.7 mm	33 kg (Thin)
B -- a	7.7 mm	48 kg (Thick)
B -- b	7.2 mm	40 kg (Normal)

4.10 Hot Roller Temperature Adjustment

When:	Unfused copy with thick paper or paper curl with thin paper cannot be corrected by adjusting the fusing pressure.
Purpose:	To adjust for different paper thicknesses
Target:	Well fused copies without curl
Measure:	SP 49 (from 175 to 190°C, 10°C/step)
How:	Changes hot roller operating temperature.

1. Set SP 49, and press the number keys to change the number indicated while checking the copy quality.
2. Set SP 52 to check the hot roller temperature.

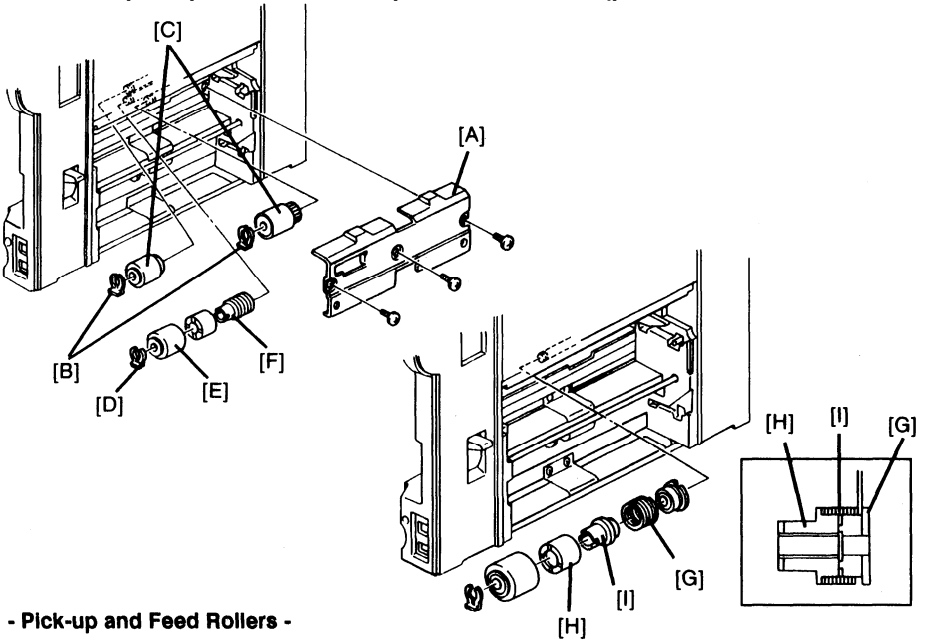
4.11 Idling Period Selection

When:	The following cause unfused copies even after five minutes idling time. 1. Thick copy paper 2. A drop of more than 5% in the power supply 3. Room temperature lower than 15°C
Purpose:	To adjust for variations in paper thickness, power supply, or temperature
Target:	Well fused copies without curl
Measure:	SP 61 (The idling period can be set at 5, 10, or 15 minutes.)
How:	Changes initial hot roller operating temperature

1. Select idling period with SP 61.

5. PAPER FEED

5.1 Pick-up, Paper Feed and Separation Roller Replacement



- Pick-up and Feed Rollers -

1. Remove the paper feed guide plate [A] (3 screws). Then, remove the snap ring [B], and replace the rollers [C].

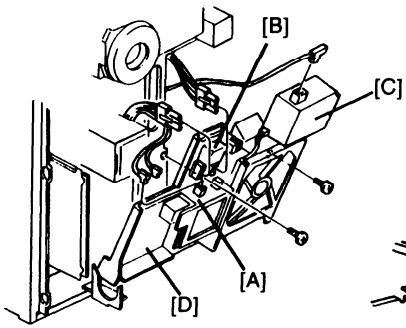
- Separation Roller -

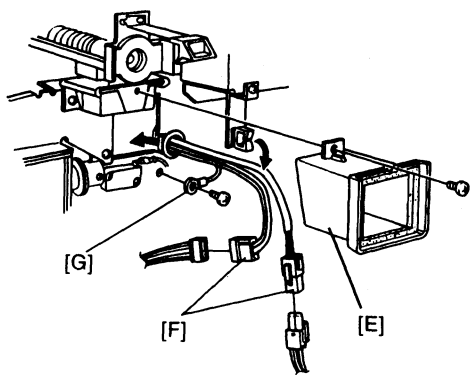
1. Remove the snap ring [D], and remove the roller [E].
2. Slide the slip clutch [F] off the shaft. Then, clean and lubricate the clutch with Mobil Temp 78.

CAUTION: When reinstalling the spring between the inner [G] and outer [H] hubs, make sure that the spring [I] does not contact the inner hub. This is because the inner hub does not slip properly if the spring contacts the inner hub. This may cause midfeeds.

3. Reassemble.

5.2 Transport Unit Removal

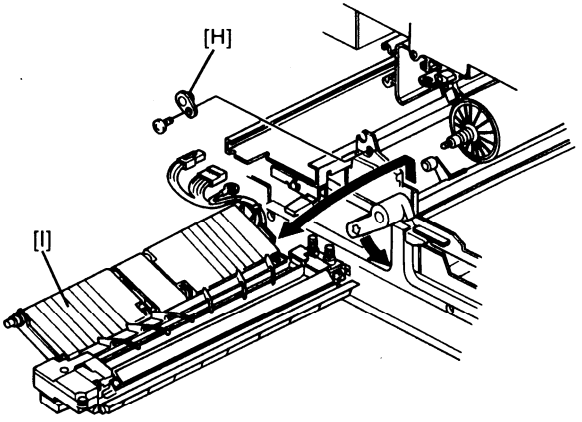




1. Remove the rear cover (2 screws) and the toner collection bottle.
2. Disconnect the connectors from the following components:

TC/SC power pack [A]:	Two 1P White
Quenching Stabilizer [B]:	3P Red
	3P White
PCC power pack [C]:	1P White

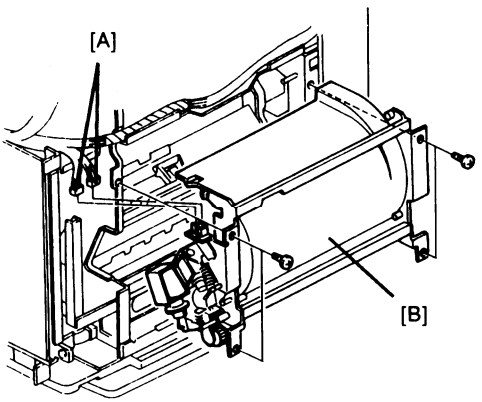
3. Lower the power pack bracket [D] (TC/SC, PCC, Stabilizer) (2 screws).
4. Remove the vacuum fan duct [E] (1 screw), disconnect the two white connectors (2P & 6P) [F], and remove the ground wire [G] (1 screw).



5. Remove the fusing and cleaning units. Then, remove the bushing [H] (1 screw).
6. Remove the transport unit [I] with the bushing from the rear.

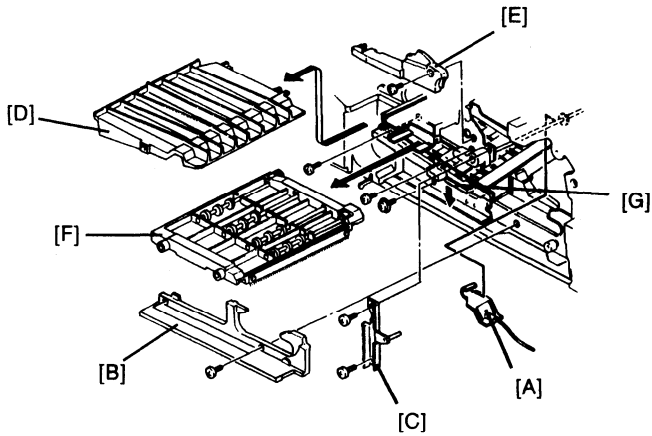
6. DUPLEX

6.1 Invertor Unit Removal

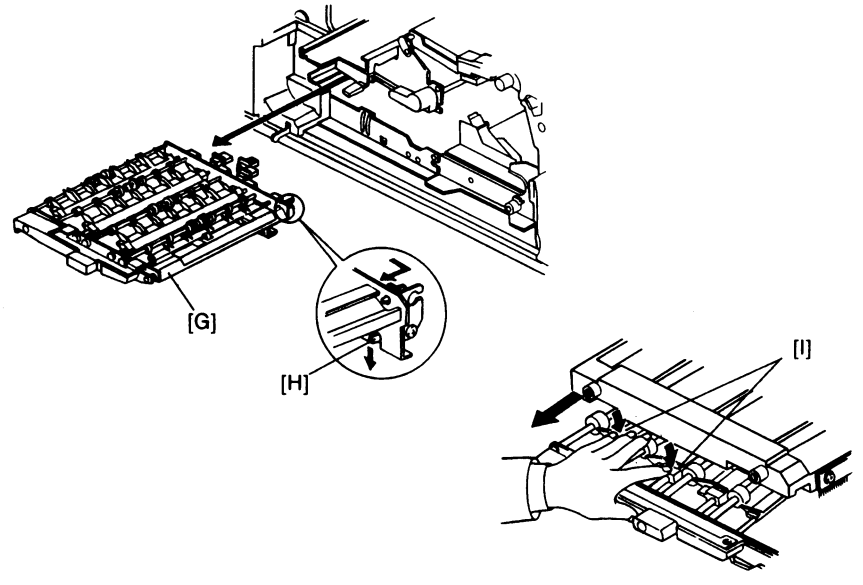


1. Turn off the main switch, and remove the rear and left covers (6 screws).
2. Remove two connectors [A].
3. Remove the invertor unit [B] (4 screws).

6.2 Duplex Transport and Fork Gate Units Removal



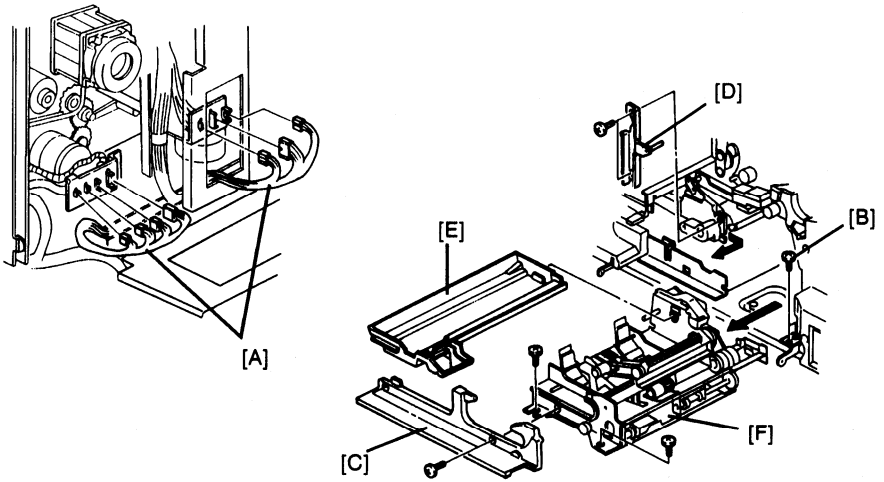
1. Turn off the main switch and open the front cover.
2. Remove the settler bar [A], lower inner cover [B] (2 screws), and transport unit post [C] (2 screws). Then, remove the duplex delivery tray [D] (1 stud screw).
3. Lower the transport unit, and remove the duplex transport unit cover [E] (1 screw). Then, remove the duplex transport unit [F] (2 screws).
4. Remove the rear cover (2 screws), and remove the main board (2 screws, leave connectors inserted). Then, remove the connectors from the fork gate unit [G].



5. Lower the fork gate unit [G], and press down the lever [H] on the bottom of the rear, right corner of the fork gate unit. Then, pull the fork gate unit to the right and remove it.

NOTE: When reinstalling the fork gate unit, press down on the 1st & 2nd fork gates [I] with your fingers to avoid damaging the gates.

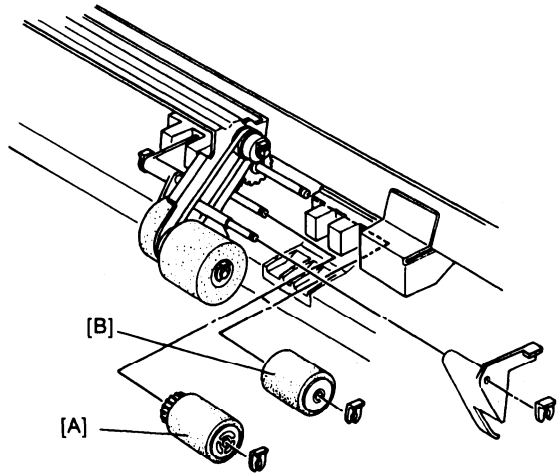
6.3 Jogger Unit Removal



1. Remove the rear cover (2 screws) and the toner collection bottle.
2. Lower the power pack bracket. (Refer to “Transport Unit Removal.”) Then, remove the seven connectors [A] (2P black, 2P white, 2P yellow, 3P black, 6P black, 3P white, 3P red) from the jogger unit.
4. Remove the front cover (2 knob screws [B]) and the lower inner cover [C] (2 screws).
5. Remove the transport unit post [D] (2 screws). Then, remove the toner catch pan [E] and the settler bar.
6. Remove the knob screws, then remove the jogger unit [F] (2 screws).

NOTE: When reinstalling the jogger unit, insert it halfway, then confirm from the rear that the gears mesh.

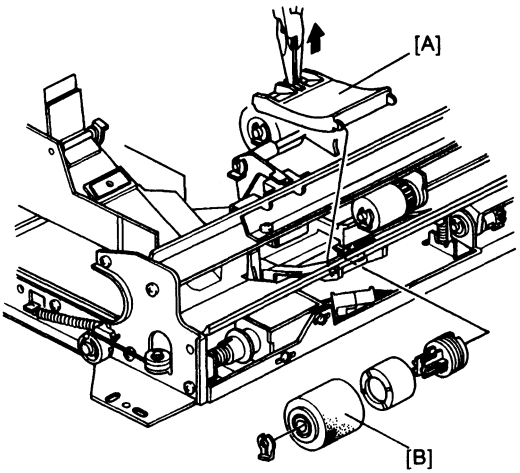
6.4 Duplex Pick-up and Feed Roller Replacement



1. Open the front cover (2 thumb screws).
2. Remove the toner catch pan, the settler bar and the duplex paper actuator (1 snap ring - M3).
3. Remove the pick-up roller [A] and the feed roller [B] (1 snap ring each).

CAUTION: The duplex feed and cassette feed rollers are not Interchangeable The duplex feed roller must be installed with the beveled edge of the one-way bearing to the front.

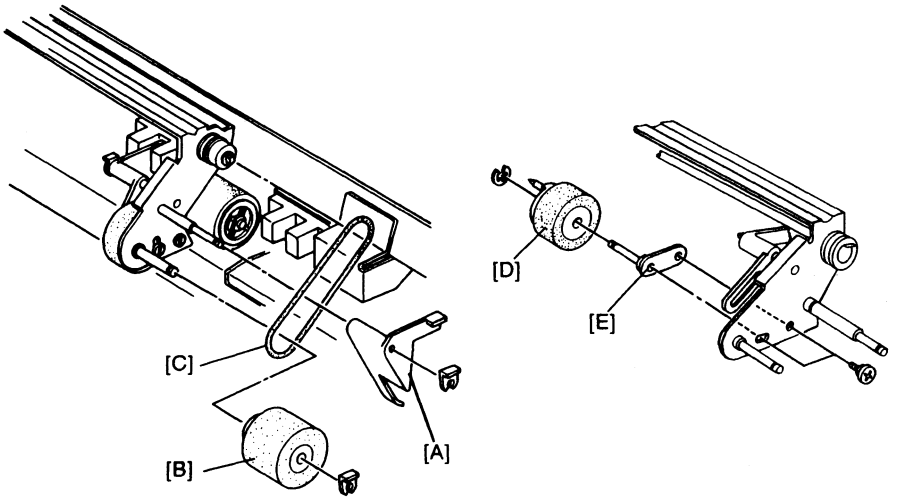
6.5 Duplex Separation Roller Replacement



1. Remove the jogger unit. (Refer to "Jogger Unit Removal.") Then remove the separation roller cap [A].
2. Remove the separation roller [B] (1 snap ring) and the slip clutch.
3. Lubricate the slip clutch with Mobil Temp 78.
4. Install a new separation roller.

CAUTION: The rollers and slip clutch for the duplex and the rollers for the cassette feed are not interchangeable.

6.6 Positioning and Entrance Actuator Rollers Replacement



1. Open the front cover.

2. Remove the toner catch pan and the duplex paper actuator [A] (1 snap ring - M3).

- Positioning Roller -

3. Remove the positioning roller [B] together with the drive belt [C] (1 snap ring).

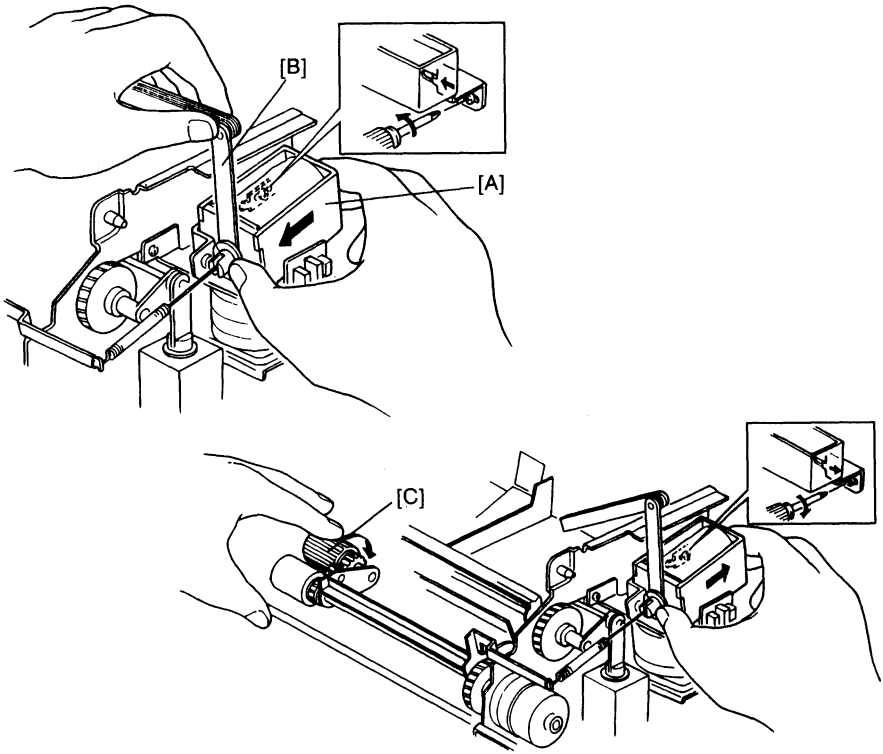
NOTE: When installing the new positioning roller, make sure that the drive belt fits snugly in the grooves of the pulleys.

- Entrance Actuator Roller -

4. Remove the entrance actuator roller [D] together with its axle plate [E] (2 shoulder screws).

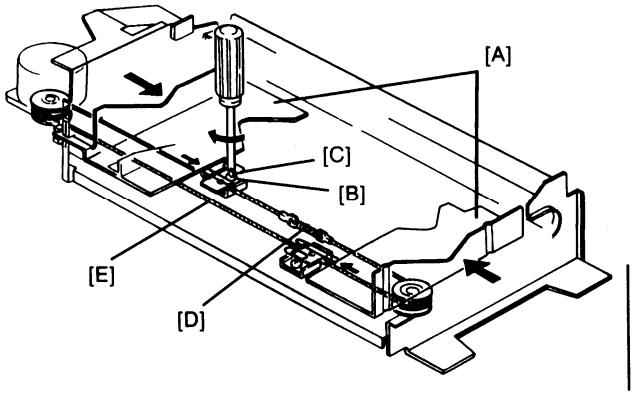
5. Separate the actuator roller from the axle plate (1 E-ring).

6.7 Duplex Pick-up Solenoid Adjustment

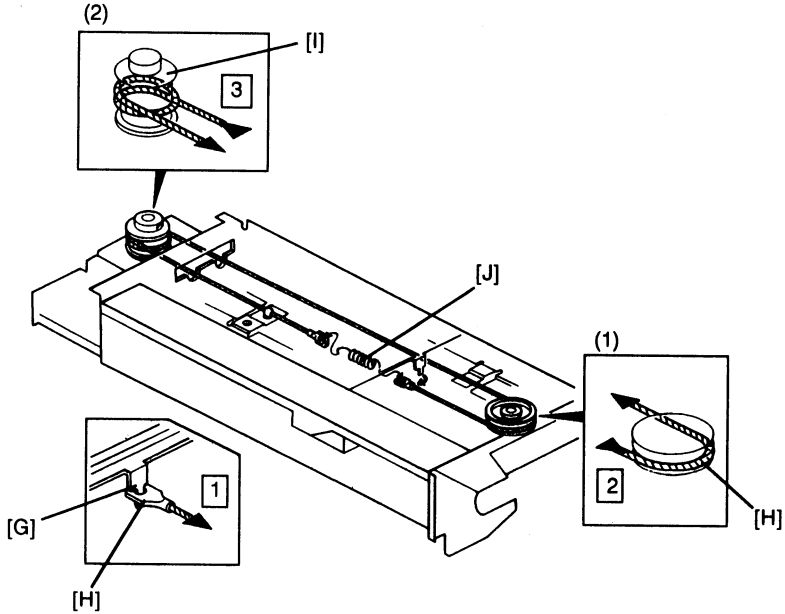


1. Remove the jogger unit. (Refer to “Jogger Unit Removal.”)
2. Loosen the two screws to shift the duplex pick-up solenoid bracket [A] fully to the left (rear view).
3. Insert a 1.5 mm thickness gauge [B] between the plunger and the solenoid. Then, push the plunger to the right.
4. While rotating the duplex pick-up roller [C], shift the duplex pick-up solenoid bracket to the right until the roller can not be rotated. Then, secure the duplex pick-up solenoid bracket.

6.8 Jogger Wire Replacement



1. Remove the jogger unit. (Refer to “Jogger Unit Removal.”)
2. Slide both the front and rear jogger fences [A] to align the screws [B] and holes [C]. Then, remove the screws.
3. Unhook the spring [D] and remove the old wire [E].



4. Turn over the jogger unit, and place the eyelet [F] (the one furthest from the ball) on the anchor pin [G]. Then, route the wire as follows:

   (1) Wrap the wire counterclockwise around the lower track of WP1 [H].
   (2) Wrap the wire counterclockwise, from lower to upper, around the jogger motor pulley [I].

5. Connect both ends of the wire with the spring [J].

6. Iadjust the jogger home position. (Refer to the adjustment table.)

7. COPY IMAGE

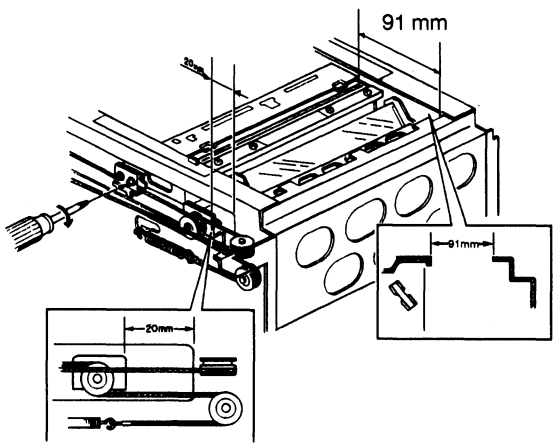
7.1 Vertical Magnification Adjustment

When: The vertical magnification is not within specifications.
Purpose: To maintain correct vertical magnification
Target: ± 1%
Measure: SP 43 (0.1 % / step, 15 steps)
How: Changes the scanner speed compensation.

1. Place a 150 mm scale on the exposure glass and align it perpendicular to the left scale.
2. Adjust the vertical magnification using SP 43. Make three copies each time.

7.2 Horizontal Magnification

When:	The horizontal magnification is not within specifications. After loosening the first scanner wire clamp.
Purpose:	To maintain proper horizontal magnification
Target:	± 0.5 %
Measure:	Adjust the position of the first scanner wire clamp (rough adjustment).
How:	Changes the distance between the original and the drum surface.
Measure:	SP 44 (0.1 % / step, 15 steps) (fine adjustment).
How:	Changes the lens home position.



Rough Adjustment

1. Set SP 44, and press number key 8.
2. Turn off the main switch, and position the first and second scanners as shown above.

Fine Adjustment

3. Place a 150 mm scale on the exposure glass parallel to the left scale.
4. Adjust the horizontal magnification using SP 44. Make three copies each time.

7.3 Focus Adjustment

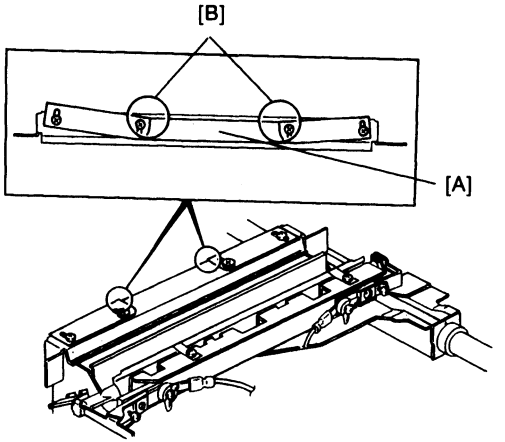
When:	The copy image is out of focus. After adjusting the horizontal magnification.
Target:	Copy image in focus
Measure:	SP 47 (0.1 % per step, 15 steps)
How:	Adjusts the fourth and fifth mirror assembly home position, changing the distance between the original and the drum surface.

1. Make three A3/LDG copies with the test chart.

2. Adjust the focus using SP 45. Refer to the letter portion on the copies.

7.4 Uneven Exposure Adjustment

When: The exposure is uneven.
Purpose: To maintain even exposure.
Target: The side-to-side variation of the gray scales on the test chart should be less than one level.
Measure: Exposure adjustment plate positioning
How: Changes the position of the adjustment plates to make the light intensity from the exposure lamp even across its length.



1. Clean the optics and the charge corona wires.
2. Place a test chart on the exposure glass and make three A3/LDG copies.
3. If the side-to-side variations of the gray scales is not within specifications, turn off the main switch and remove the exposure glass. (Refer to “Exposure Glass Removal.”)
4. Position the adjusting plates [A] so that the copy image meets the adjustment standard. The leading edges of the three adjustment plates must be aligned [B] to avoid white streaks.

7.5 Light Intensity Adjustment

When:	Every call
Purpose:	To maintain the correct light intensity.
Target:	Second level of the standard test chart is slightly visible or there is no background on the copy when the second ID level is selected.
Measure:	SP 48
How:	Changes the lamp regulator output voltage.

1. Clean the optics, ID sensor, and charge corona wires.
2. Check/adjust uneven exposure and horizontal magnification.
3. Select the fourth manual ID level and make ten A3/LDG copies to stabilize drum sensitivity.
4. Select the second manual ID level and make three A3 copies.
5. Adjust the light intensity using SP 48.

7.6 ADS Reference Voltage Setting

When:	Every call
Purpose:	To maintain correct ADS mode operation
Target:	ADS reference voltage = from 2.6 to 3.1 volts
Measure:	SP 56
How:	The main CPU automatically stores the reference voltage displayed in the guidance display ("V0") during SP 56 operation. (This voltage setting is valid only when the ADS reference voltage is from 2.6 to 3.1 volts.)

This process saves time because the rear cover does not have to be removed to adjust the ADS reference voltage.

1. Clean the optics, and select ADS mode. Then, set SP 56.
2. Place three sheets of A3/LDG white paper on the exposure glass, and press the Enter key. and then, the Start key.
3. Check if the ADS reference voltage "V0" is within specifications (from 2.6 to 3.1 volts).
4. After more than three scannings are finished, press the Clear/Stop key. The ADS reference voltage is now newly stored.

NOTE: If it is not within specifications, perform "ADS Voltage Adjustment.

7.7 ADS Voltage Adjustment

When:	ADS voltage is not within specifications (from 2.6 to 3.1 volts). After replacement of either exposure lamp, ac drive PCB, main PCB, or ADS sensor. After "Light Intensity Adjustment"
Purpose:	To maintain correct ADS mode operation.
Target:	ADS voltage = 3.0 + 0.1, - 0.4
Measure:	Voltage Adjustment = VR 100 on the main PCB
How:	Set SP 56 The ADS output voltage on the main PCB can be changed. The ADS voltage is displayed on the guidance display ("V0").

1. Clean the optics, and select ADS mode. Then, set SP 56.
2. Place three sheets of A3/LDG white paper on the exposure glass, and press the Enter key.
3. Open the rear cover (2 screws) and adjust the ADS sensor output voltage using VR 100 on the main PCB.

7.8 ADS Operation Checking

When: Problem with ADS mode occurs.
Purpose: To check if ADS controls development bias voltage properly
Target: Darker original should increase the development bias voltage during ADS operation.

ADS Voltage Checking

Measure: Set SP 57
How: ADS voltage is displayed on the guidance display ("V1"). Also, the number "K", which is the actual ADS voltage divided by the reference ADS voltage (fixed by SP 56), is displayed.

Development Bias Voltage Checking

Measure: SP 59
How: The actual bias voltage is displayed on the guidance display ("V1"). Also, the ID sensor pattern development bias is displayed ("V0").

1. Set the ADS reference voltage (SP 56).
2. If necessary, adjust the ADS voltage.
3. Place three sheets of A3/LDG white paper on the exposure glass, and set SP 57. Then, press the Enter key and the Start key.
4. Write down the "V1" & "K" reading, and set SP 59. (First set ADS mode)
5. Repeat steps 3 through 5 using any original but white paper on the exposure glass, and confirm that "V1" & "K" decrease in SP 57 and "V1" increases in SP 59.

7.9 Erase Adjustment

When: The leading erase margin is not within specifications.
Purpose: To maintain the correct leading erase margin
Target: 3.5 ± 2.5 mm
Measure: SP 41 (0.6 mm/step, 15 steps) changes the erase lamp on period.

1. Place a 150 mm scale on the exposure glass and align it perpendicular to the left scale.
2. Adjust the leading edge erase margin using SP 41. Make three copies with each adjustment.

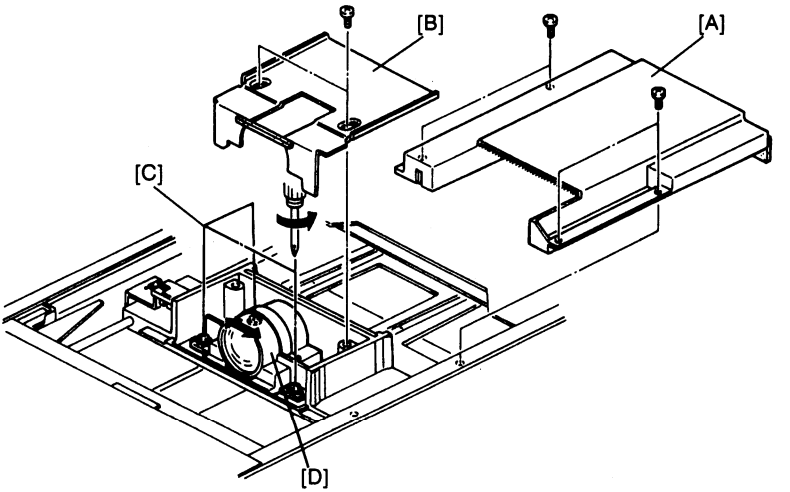
7.10 Registration Adjustment

When: Registration is not within specifications.
Purpose: To maintain proper registration.
Target: 0 ± 2 mm
Measure: SP 42 (0.6 mm/step, 15 steps) changes the registration roller start timing.

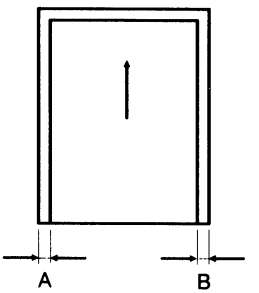
1. Place a 150 mm scale on the exposure glass and align it perpendicular to the left scale.
2. Adjust the registration using SP 42. Make three copies for each adjustment.

7.11 Side-to-Side Registration Adjustment

Adjustment Standard: A + B < 3.0 mm

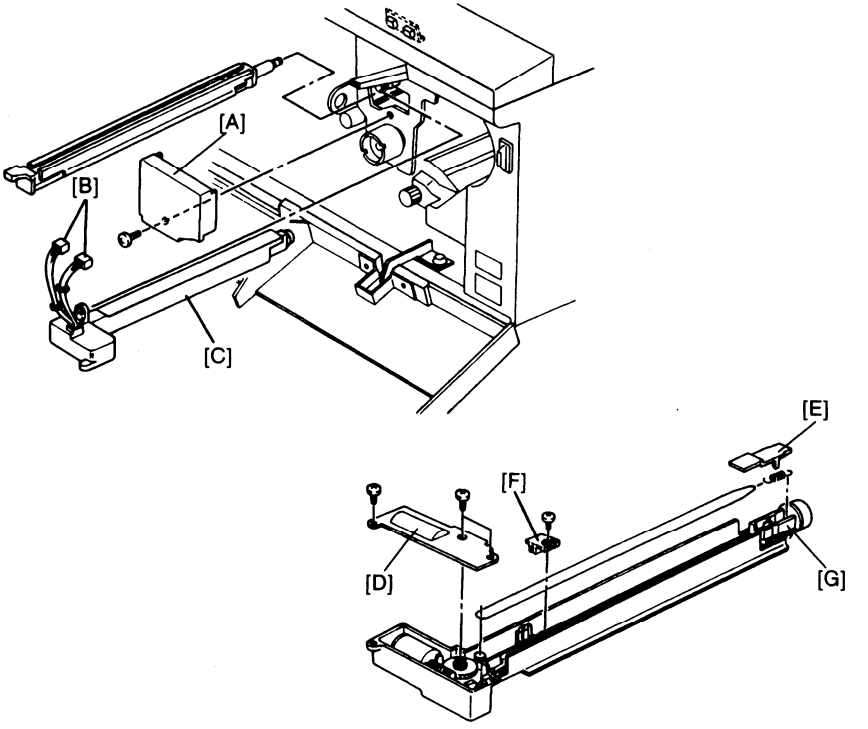


1. Turn off the main switch and remove the exposure glass. (Refer to Exposure Glass Removal.)
2. Remove the lens housing cover [A] (4 screws) and the lens cover [B] (2 screws).
3. Loosen 3 screws [C] and shift the lens [D] from side-to-side to adjust the registration.



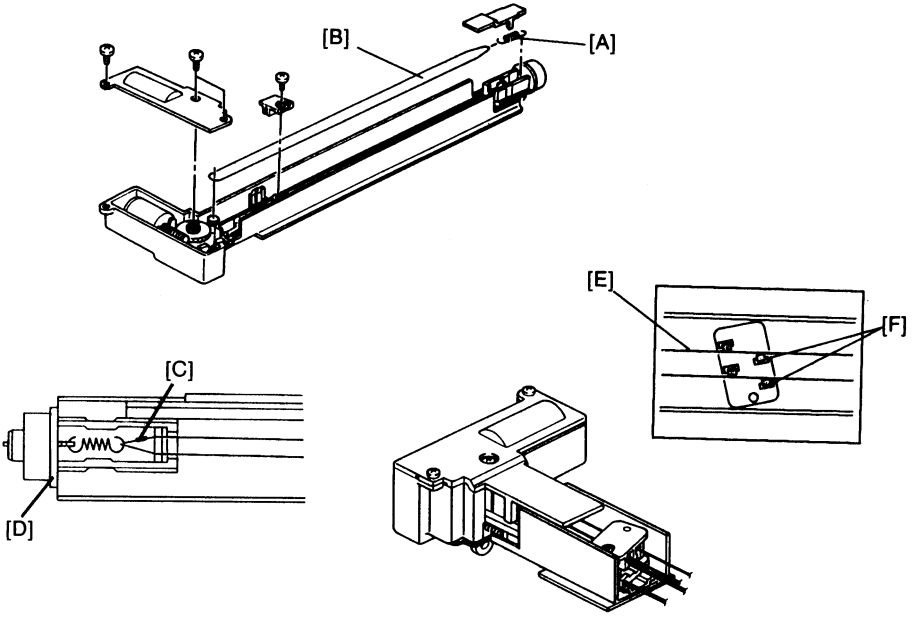
8. CORONA

8.1 Charge Corona Wire Replacement



1. Remove the drum inner cover [A] (1 screw).
2. Unplug the charge corona connectors [B] and take out the charge corona unit [C].
3. Remove the front [D] and rear [E] endblock covers (front - 3 screws).
4. Remove the wire cleaner [F] (1 screw).
5. Remove the rear endblock [G] (1 screw).

CAUTION: The endblock may spring away from the corona unit, so hold it firmly.

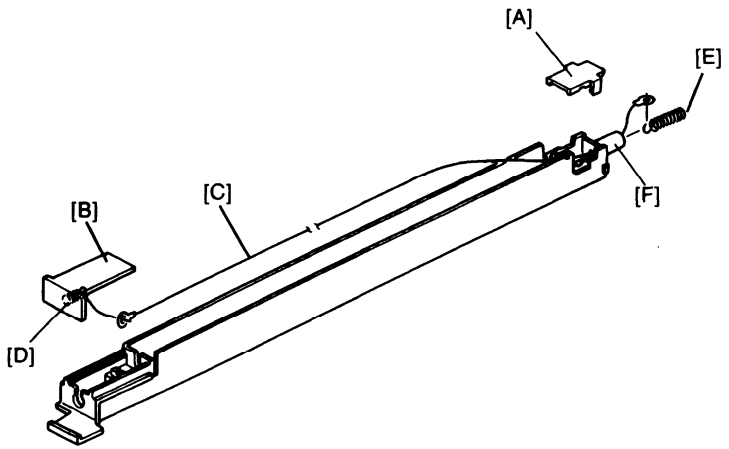


6. Unhook the tension spring [A] and take off the old corona wire [B].
7. Clean the endblock, endblock covers, and the corona unit casing with a blower brush and damp cloth.
8. Hook the corona wire to the front anchor post.
9. Hook the tension spring to the wire; then, hook it to the rear terminal. (The wire junction [C] should be positioned inside the rear endblock [D].)
10. Reassemble the charge corona unit.

NOTE: Make sure that the corona wire [E] is positioned between the cleaner pads [F]. Also, check the wire cleaner movement with SP 7.

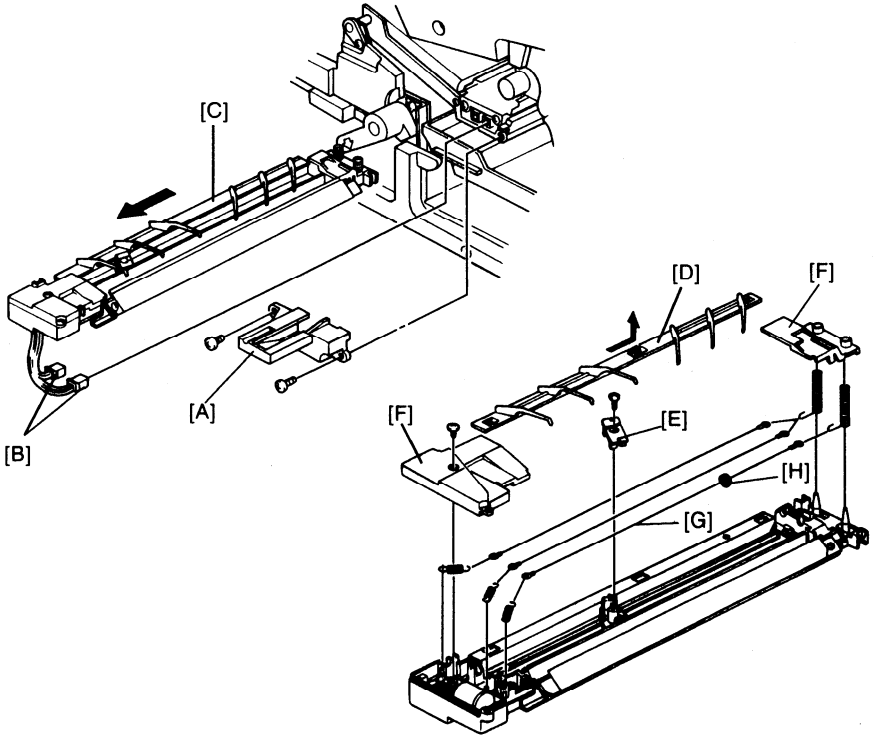
Make sure that the spring that acts upon the home position sensor actuator is seated correctly.

8.2 Pre-quenching Corona Wire Replacement



1. Remove the pre-quenching corona unit.
2. Remove the rear endblock cover [A].
3. Remove the front endblock cover [B] and take the old corona wire [C] off the front spring [D].
4. Pull the rear spring [E] out of the rear endblock [F], and remove the old quenching corona wire.
5. Install a new corona wire.
6. Reassemble the quenching corona unit.

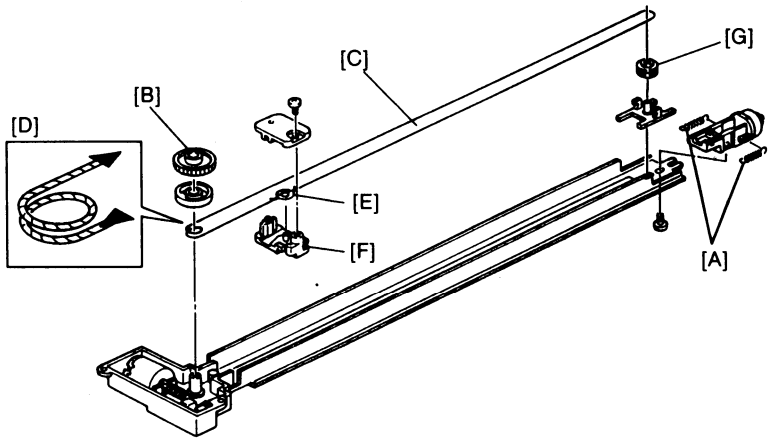
8.3 Transfer and Separation Corona Wires Replacement



1. Open the front cover and remove the TC/SC unit cover [A] (2 screws). Then, disconnect the two cleaner motor connectors [B].
2. Lower the transport unit and slide out the TC/SC unit [C].
3. Remove the paper guide [D], lifting it from the rear. Then, remove the cleaner cover [E] (1 screw).
4. Remove the rear and front endblock covers [F] (2 screws from the front). Then, replace the wires.

CAUTION: When installing the transfer corona wire [G], confirm that the ring [H] is installed on the wire.

8.4 Charge Cleaner Drive Wire Replacement

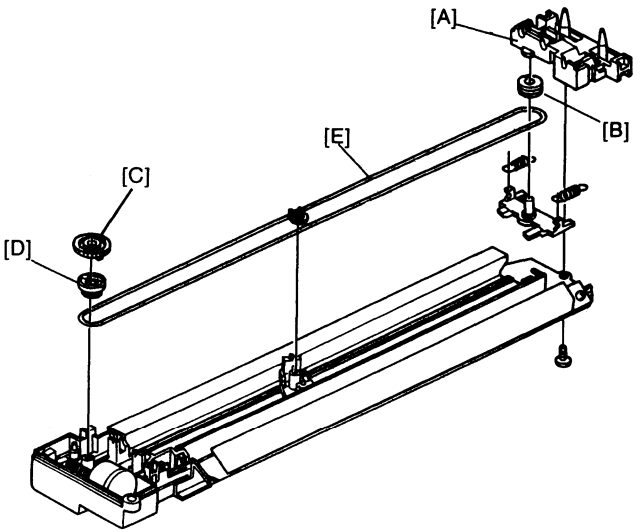


1. Remove the corona wires. (Refer to “Charge Corona Wire Replacement.”)
2. Remove the drive wire tension springs [A], drive gear [B], and the old drive wire [C].
3. Wrap the new wire around the drive pulley one and one-half times [D].
4. Place the drive ring [E] over the post of the wire cleaner [F].
5. Slip the wire over the idle pulley [G].
6. Install the wire.
7. Reassemble the corona unit.

NOTE: Make sure that the corona wire is positioned between the cleaner pads. Also, check the wire cleaner movement using SP-7.

Make sure that the spring that acts upon the home position sensor actuator is seated correctly.

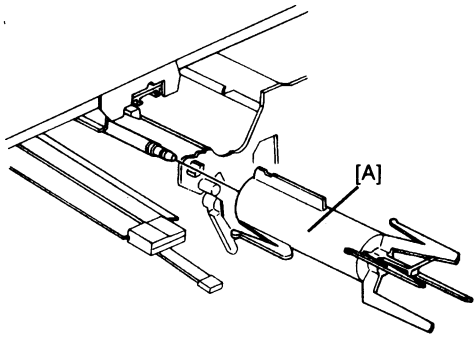
8.5 TC/SC Cleaner Drive Wire Replacement



1. Remove the TC/SC wires. (Refer to “Transfer and Separation Corona Wire Replacement.”)
2. Remove the rear endblock [A] (1 screw) while holding it firmly, since it may spring away. Then, remove the drive pulley [B].
3. Remove the drive gear [C] and the pulley [D] from the front side. Then, replace the drive wire [E].
4. Reassemble.

NOTE: Make sure that the spring that acts upon the home position sensor actuator is seated correctly.

8.6 Drum Current Adjustment Preparation

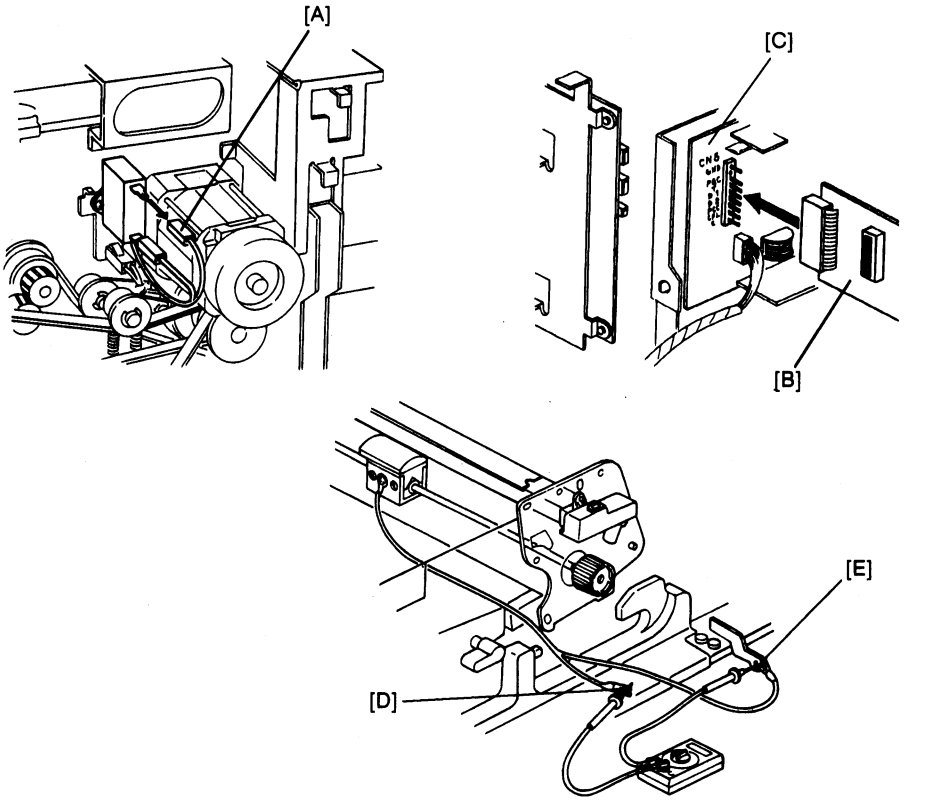


NOTE: The drum current varies with environmental conditions such as humidity and atmospheric pressure. The drum current should be checked and adjusted only when the corona power pack is replaced or the copy image is out of specification. This is because each corona unit is adjusted to a range of environments in the factory.

CAUTION: Make sure that the main switch is turned off when you change the range on the digital multimeter; otherwise, the multimeter may be damaged. Make sure that the main switch is turned off when you touch the drum shoe.

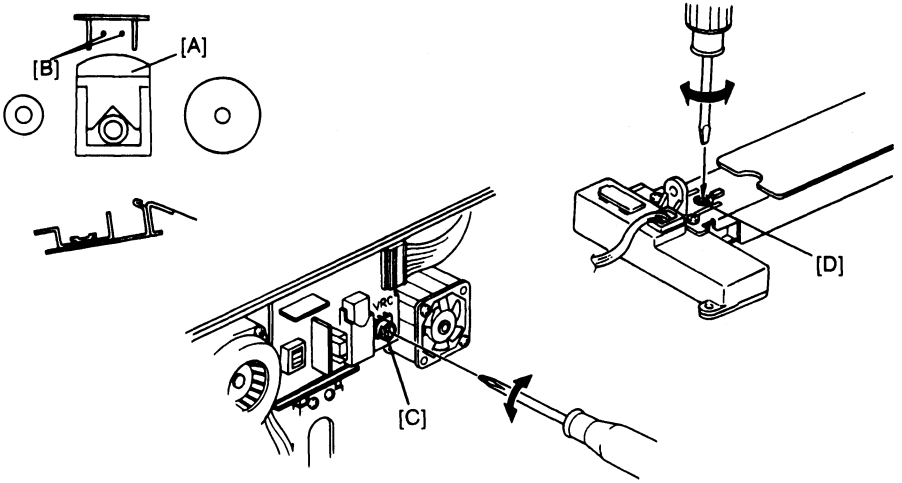
1. Turn off the main switch and remove the following parts:

- Drum cover
- Charge corona unit
- T/S corona unit cover
- T/S corona unit
- T/S corona paper guide
- Drum stay
- Pre-quenching corona unit
- Cleaning unit
- Development unit
- Drum flange
- Drum -- cover it with the protective sleeve
- Drum guide [A]
- Rear cover



2. Clean all corona units (including the corona wires).
3. Disconnect the connector [A] on the main motor so that the drum shaft does not rotate during adjustment.
4. Plug a switching PCB [B] into CN3 of the TC/SC power pack PCB [C]. Confirm that the DIP switches face the paper feed control PCB.
5. Install the drum shoe and adapter on the drum shaft with the lip to the rear. Route the shoe lead wire out through the development unit opening.
6. Connect the positive lead of the digital multimeter to the red lead [D]. Connect the negative lead of the digital multimeter and the black lead [E] to the machine ground.
7. Deactuate the front safety switch.

8.7 Charge Corona Current Adjustment

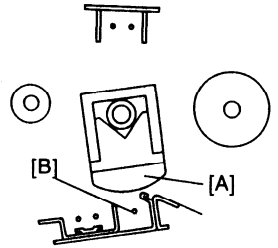


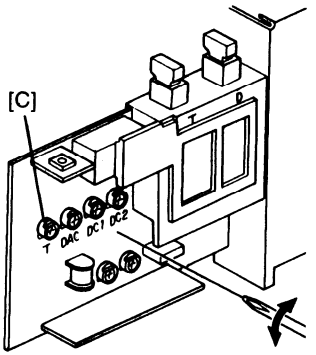
Optimum Adjustment Value: DC + 92.0 ± 1.0 µA

CAUTION: Make sure that the main switch is turned off when you touch the drum shoe.

1. Reinstall the drum stay (1 screw and 1 knob) and the charge corona unit.
2. Position the drum shoe so that the axis of the current sensing plate [A] is aligned with the charge corona wire [B].
3. Select the dc 200 mA range on the digital multimeter.
4. To turn on the charge corona, turn on the switching PCB dip switch corresponding to "C" on the TC/SC power pack PCB. (The silk screen printed on the TC/SC power pack PCB is correct.)
5. Adjust the corona current by turning VR "C" [C] on the C/B power pack. (Wait 30 seconds for the current to stabilize.)
6. Confirm that the corona current at the front and the rear is the same by repeating the above procedure with the drum shoe in different positions. If not, adjust the wire height using the screw [D] on the front end block.
7. Remove the drum shoe, and reassemble.
8. Check copy quality.

8.8 Transfer Corona Current Adjustment

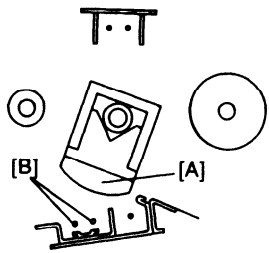


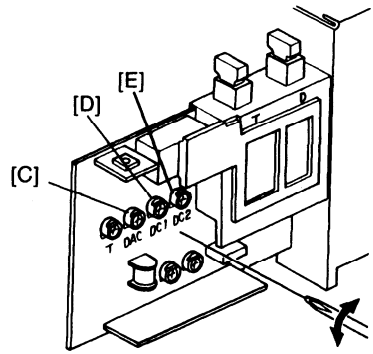


Optimum Adjusting Value: DC + 18.5 + 1.0 µA

1. Reinstall the TC/SC corona unit and position the drum shoe at the center of the shaft, so that the axis of the current sensing plate [A] is aligned with the transfer corona wire [B].
2. Select the dc 200 µA range on the digital multimeter.
3. To turn on the transfer corona, turn on the switching PCB dip switch corresponding to "T" on the TC/SC power pack PCB. (The silk screen printed on the TC/SC power pack PCB is correct.)
4. Adjust the corona current by turning VR "T" [C] on the TC/SC power pack. (Wait 30 seconds for the current to stabilize.)
5. Remove the drum shoe, and reassemble.
6. Check copy quality.

8.9 Separation Corona Current Adjustment





Optimum Adjusting Values:

AC 57.0	+ 2.0 µA (D1)
DC -8.0	+ 1.0 µA (leading edge: D1)
DC -2.5	+ 1.0 µA (normal: D1 & D2)

1. Reinstall the TC/SC corona unit, and position the drum shoe at the center of the shaft so that the axis of the current sensing plate [A] is aligned with the separation corona wires [B] as shown.

AC current: D1

2. Select the ac 200 µA range on the digital multimeter.
3. To turn on the separation corona, turn on the D1 DIP switch on the switching PCB (on the TC/SC power pack PCB.) (The silk screen printed on the TC/SC power pack PCB is correct.)
4. Adjust the corona current by turning VR “DAC” [C] on the TC/SC power pack. (Wait 30 seconds for the current to stabilize.)

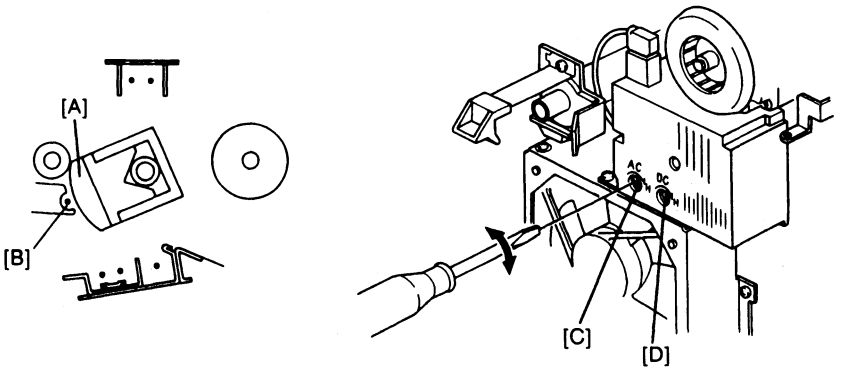
Leading edge dc: D1

5. Turn off the main switch, and select the dc 200 µA range on the digital multimeter.
6. Turn on the main switch, and adjust the corona current by turning VR “DC1” [D] on the TC/SC power pack. (Wait 30 seconds for the current to stabilize.)

Normal dc: D1 & D2

7. To turn on the separation corona, turn on the switching PCB dip switches corresponding to D1 and D2 on the TC/SC power pack PCB. (The silk screen printed on the TC/SC power pack PCB is correct.)
8. Adjust the corona current by turning VR “DC2” [E] on the TC/SC power pack. (Wait 30 seconds for the current to stabilize.)
9. Remove the drum shoe, and reassemble.
10. Check copy quality.

8.10 Pre-Cleaning Corona Current Adjustment

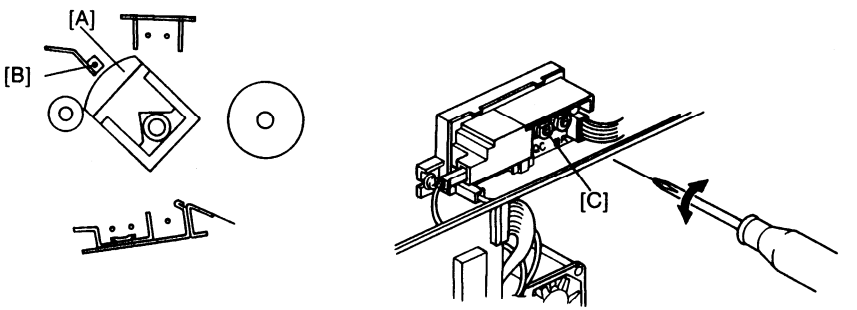


Optimum Adjusting Values:

AC 46.0	± 2.0 µA
DC -24	± 1.0 µA

1. Reinstall the cleaning unit, and position the drum shoe at the center of the shaft so that the axis of the current sensing plate [A] is aligned with the PCC wire [B].
2. Select the ac 200 µA range on the digital multimeter.
3. To turn on the PCC, turn on the switching PCB dip switch corresponding to PCC on the TC/SC power pack PCB. (The silk screen printed on the TC/SC power pack PCB is correct.)
4. Adjust the corona current by turning VR "AC" [C] on the PCC power pack. (Wait 30 seconds for the current to stabilize.)
5. Turn off the main switch, and select the dc 200 µA range on the digital multimeter.
6. Turn on the main switch, and adjust the corona current by turning VR "DC" [D] on the PCC power pack. (Wait 30 seconds for the current to stabilize.)
7. Remove the drum shoe, and reassemble.
8. Check copy quality.

8.11 Pre-Quenching Corona Current Adjustment

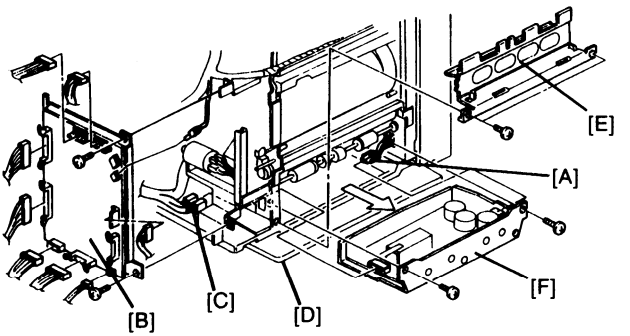


Optimum Adjusting Value: DC + 17.0 + 2.0 μA

1. Disconnect the connector of the cleaning bias roller at the power pack as the on timing of the cleaning bias roller and the pre-quenching corona are the same.
2. Reinstall the PQC unit, and position the drum shoe so that the axis of the current sensing plate [A] is aligned with the PQC wire [B].
3. Select the dc 200 μA range on the digital rnultimeter.
4. To turn on the PQC, turn on the switching PCB dip switch corresponding to PQC on the TC/SC power pack PCB. (The silk screen printed on the TC/SC power pack PCB is correct.)
5. Adjust the corona current by turning VR "PQC" [C] on the PQC/CB power pack. (Wait 30 seconds for the current to stabilize.)
6. Remove the drum shoe, and reassemble.
7. Check copy quality.

9. OTHERS

9.1 Power Supply Unit Removal



1. Turn off the main switch.
2. Open the front cover, and remove the left inner cover (4 screws). Then, disconnect the 2P white connector [A] from the power supply unit.
3. Remove the rear cover (2 screws) and the main board [B] (2 screws, leave connectors inserted). Then, remove the 16P white connector [C] from the power supply unit.
4. Pull out the transport handle [D] and remove the exit roller cover [E] (2 screws). Then, remove the power supply unit [F]. (Be careful not to damage any connectors.)

SECTION 6

ELECTRICAL DATA

Contents

ELECTRICAL DATA

1. Main PCB Schematic (1) 6-1

Main PCB Schematic (2) 6-3

2. Optics PCB Schematic 6-4

3. Paper Feed PCB Schematic 6-4

4. Timer PCB Schematic 6-4

5. Timing Chart 6-5

6. 20 Bin Sorter PCB Schematic 6-5

7. ARDF PCB Schematic 6-6

8. Large Capacity Tray PCB Schematic - 1,000 Sheets 6-7

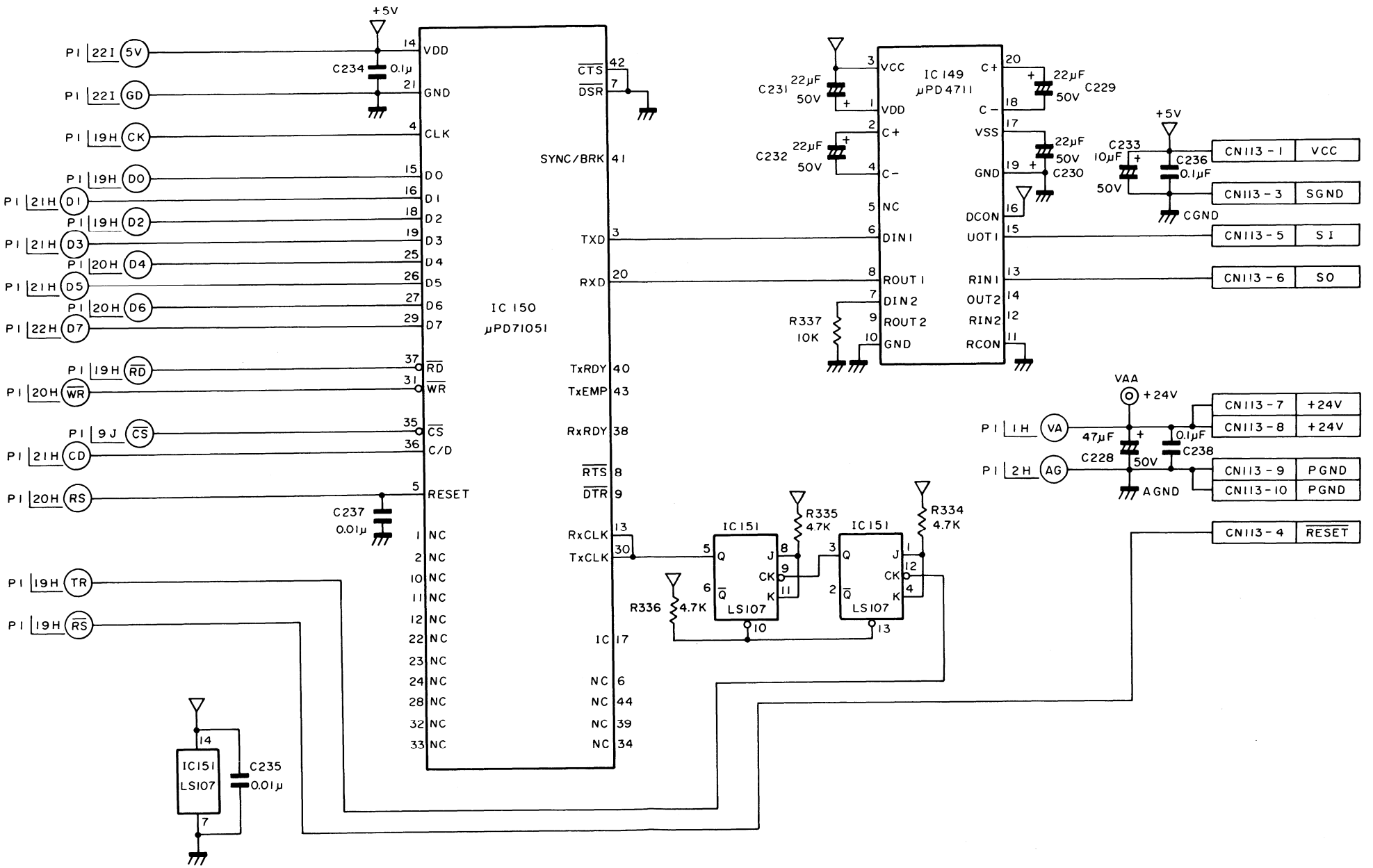
9. Large Capacity Tray PCB Schematic - 2,500 Sheets 6-8

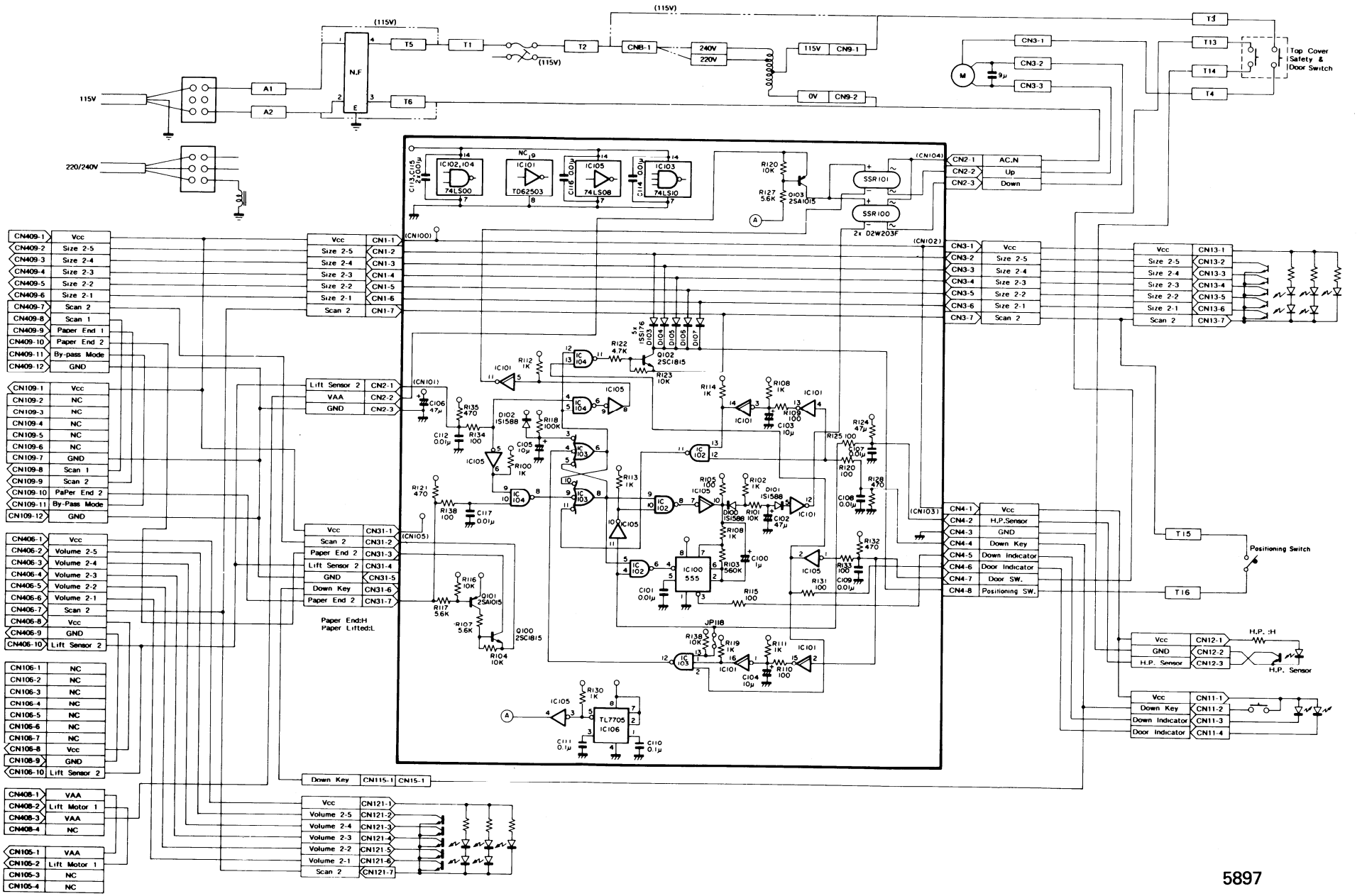
10. 15 Bin Sorter PCB Schematic 6-9

11. 15 Bin Sorter Timing Chart (A4/Letter Mode) 6-10

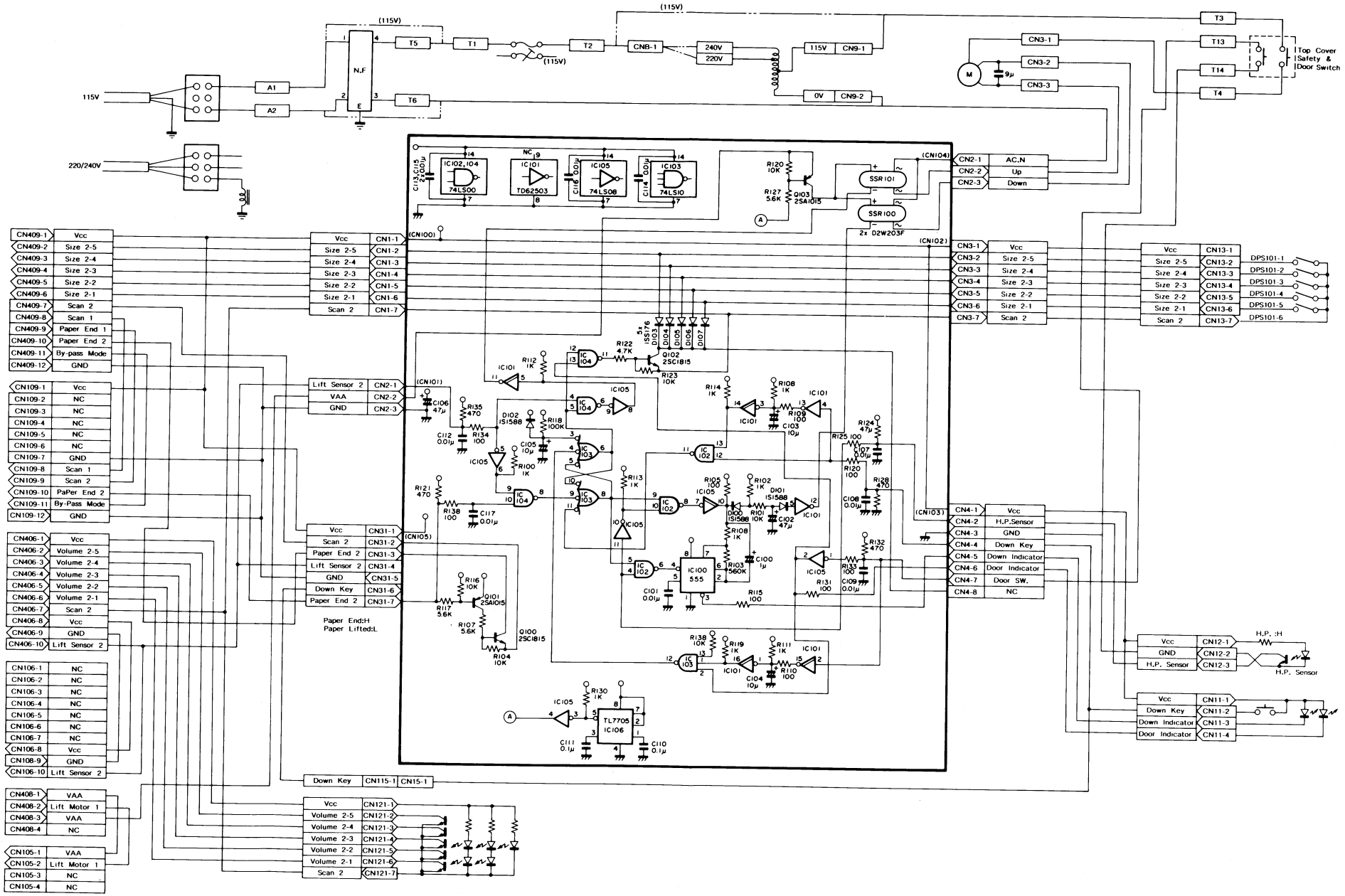
12. Menu Reader PCB Schematic (upper) 6-11

13. Menu Reader PCB Schematic (lower) 6-12

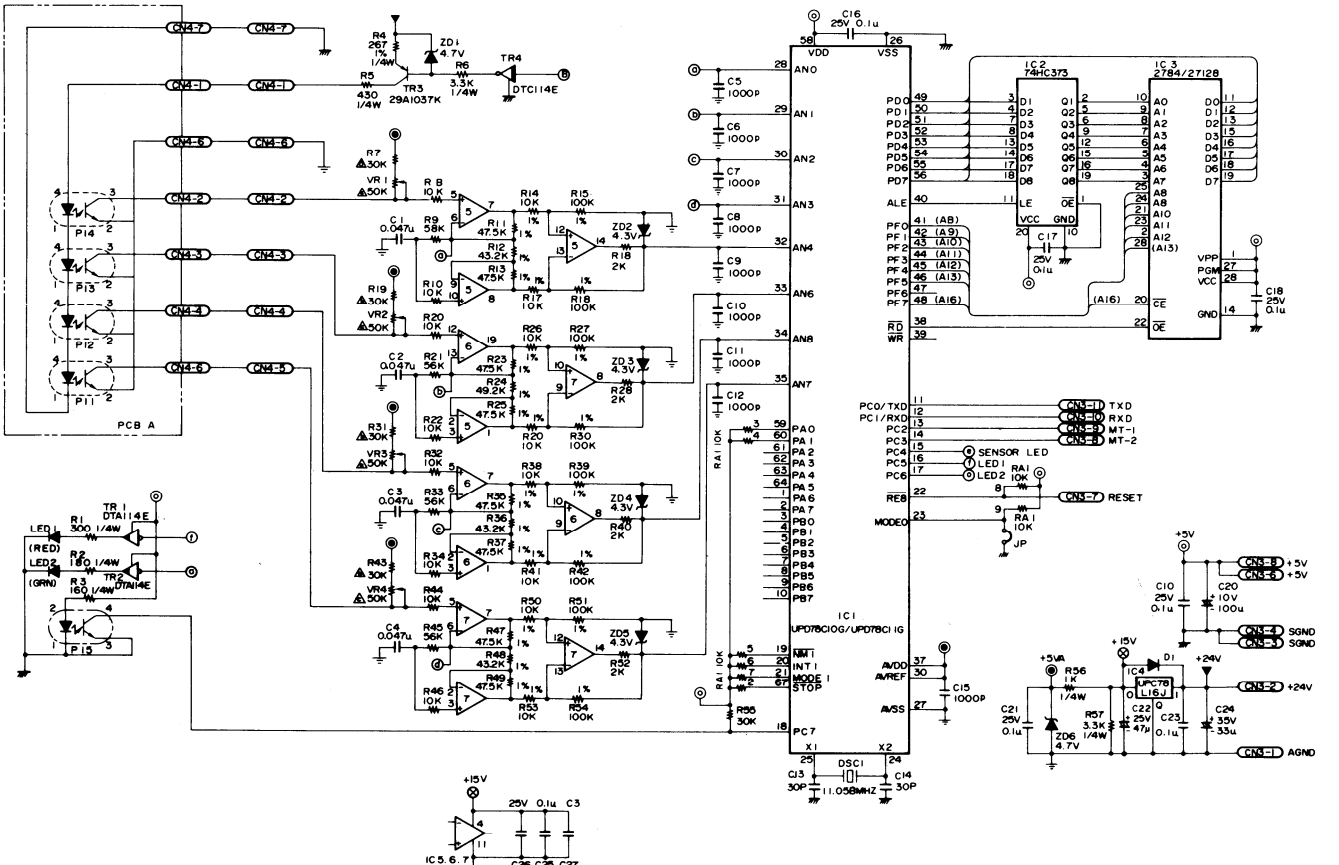

+5V
P1 22I 5V
P1 22I GD
P1 19H CK
P1 19H D0
P1 21H D1
P1 19H D2
P1 21H D3
P1 20H D4
P1 21H D5
P1 20H D6
P1 22H D7
P1 19H RD
P1 20H WR
P1 9J CS
P1 21H CD
P1 20H RS
C234 0.1µ
C237 0.01µ
IC 150
µPD71051
VDD
GND
CLK
D0
D1
D2
D3
D4
D5
D6
D7
RD
WR
CS
C/D
RESET
NC
CTS
DSR
SYNC/BRK
TXD
RXD
TxRDY
TxEMP
RxRDY
RTS
DTR
RxCLK
TxCLK
IC 17
IC 149
µPD4711
VCC
VDD
C+
C-
NC
DIN1
ROUT1
DIN2
ROUT2
GND
VSS
DCON
UOT1
RIN1
OUT2
RIN2
RCON
C231 22µF 50V
C232 22µF 50V
C229 22µF 50V
C230 22µF 50V
C233 10µF 50V
C236 0.1µF
CGND
R337 10K
CN113-1 VCC
CN113-3 SGND
CN113-5 SI
CN113-6 SO
VAA +24V
P1 1H VA
P1 2H AG
C228 47µF 50V
C238 0.1µF
AGND
CN113-7 +24V
CN113-8 +24V
CN113-9 PGND
CN113-10 PGND
CN113-4 RESET
IC151 LS107
R335 4.7K
R334 4.7K
R336 4.7K
P1 19H TR
P1 19H RS
C235 0.01µ


(115V)
115V
220/240V
A1
A2
N.F
T5
T1
T2
T6
CN8-1
240V
220V
115V CN9-1
0V CN9-2
T3
T13
T14
T4
Top Cover Safety & Door Switch
CN3-1
CN3-2
CN3-3
9µ
M
IC102,104 74LS00
IC101 TD62503
IC105 74LS08
IC103 74LS10
SSR101
SSR100
2x D2W203F
Q103 2SA1015
R120 10K
R127 5.6K
(CN104)
CN2-1 AC.N
CN2-2 Up
CN2-3 Down
(CN100)
(CN102)
CN409-1 Vcc
CN409-2 Size 2-5
CN409-3 Size 2-4
CN409-4 Size 2-3
CN409-5 Size 2-2
CN409-6 Size 2-1
CN409-7 Scan 2
CN409-8 Scan 1
CN409-9 Paper End 1
CN409-10 Paper End 2
CN409-11 By-pass Mode
CN409-12 GND
Vcc CN1-1
Size 2-5 CN1-2
Size 2-4 CN1-3
Size 2-3 CN1-4
Size 2-2 CN1-5
Size 2-1 CN1-6
Scan 2 CN1-7
CN3-1 Vcc
CN3-2 Size 2-5
CN3-3 Size 2-4
CN3-4 Size 2-3
CN3-5 Size 2-2
CN3-6 Size 2-1
CN3-7 Scan 2
Vcc CN13-1
Size 2-5 CN13-2
Size 2-4 CN13-3
Size 2-3 CN13-4
Size 2-2 CN13-5
Size 2-1 CN13-6
Scan 2 CN13-7
5x ISS176
D103 D104 D105 D106 D107
CN109-1 Vcc
CN109-2 NC
CN109-3 NC
CN109-4 NC
CN109-5 NC
CN109-6 NC
CN109-7 GND
CN109-8 Scan 1
CN109-9 Scan 2
CN109-10 PaPer End 2
CN109-11 By-Pass Mode
CN109-12 GND
Lift Sensor 2 CN2-1
VAA CN2-2
GND CN2-3
(CN101)
C106 47µ
R135 470
C112 0.01µ
R134 100
D102 1S1588
R118 100K
C105 10µ
R100 1K
R112 1K
R122 4.7K
Q102 2SC1815
R123 10K
R114 1K
R108 1K
R109 100
C103 10µ
R124 47µ
C107 0.01µ
R125 100
R120 100
R128 470
C108 0.01µ
R121 470
R138 100
C117 0.01µ
R113 1K
R105 100
R102 1K
D101 1S1588
R101 10K
C102 47µ
R103 560K
C100 µ
R132 470
R133 100
C109 0.01µ
R131 100
C101 0.01µ
R115 100
CN406-1 Vcc
CN406-2 Volume 2-5
CN406-3 Volume 2-4
CN406-4 Volume 2-3
CN406-5 Volume 2-2
CN406-6 Volume 2-1
CN406-7 Scan 2
CN406-8 Vcc
CN406-9 GND
CN406-10 Lift Sensor 2
Vcc CN31-1
Scan 2 CN31-2
Paper End 2 CN31-3
Lift Sensor 2 CN31-4
GND CN31-5
Down Key CN31-6
Paper End 2 CN31-7
(CN105)
Paper End:H
Paper Lifted:L
R116 10K
Q101 2SA1015
R117 5.6K
R107 5.6K
Q100 2SC1815
R104 10K
CN4-1 Vcc
CN4-2 H.P.Sensor
CN4-3 GND
CN4-4 Down Key
CN4-5 Down Indicator
CN4-6 Door Indicator
CN4-7 Door SW.
CN4-8 Positioning SW.
(CN103)
T15
T16
Positioning Switch
IC100 555
JP118
R138 10K
R119 1K
R111 1K
R110 100
C104 10µ
R130 1K
TL7705 IC106
C111 0.1µ
C110 0.1µ
Vcc CN12-1
GND CN12-2
H.P. Sensor CN12-3
H.P. :H
H.P. Sensor
Vcc CN11-1
Down Key CN11-2
Down Indicator CN11-3
Door Indicator CN11-4
CN106-1 NC
CN106-2 NC
CN106-3 NC
CN106-4 NC
CN106-5 NC
CN106-6 NC
CN106-7 NC
CN106-8 Vcc
CN108-9 GND
CN108-10 Lift Sensor 2
Down Key CN115-1 CN15-1
CN408-1 VAA
CN408-2 Lift Motor 1
CN408-3 VAA
CN408-4 NC
Vcc CN121-1
Volume 2-5 CN121-2
Volume 2-4 CN121-3
Volume 2-3 CN121-4
Volume 2-2 CN121-5
Volume 2-1 CN121-6
Scan 2 CN121-7
CN105-1 VAA
CN105-2 Lift Motor 1
CN105-3 NC
CN105-4 NC

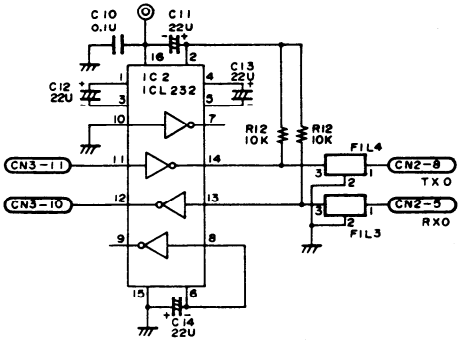
5897

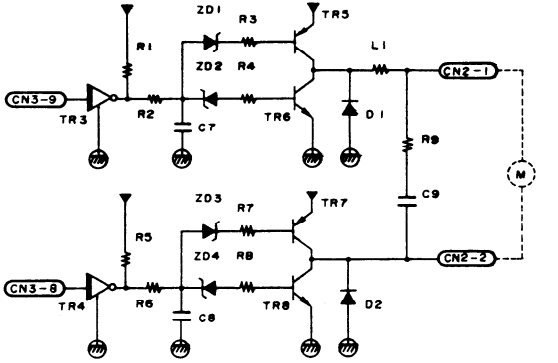

115V
220/240V
A1
A2
N.F
E
T5
T1
T2
T6
(115V)
CNB-1
240V
220V
115V CN9-1
0V CN9-2
T3
T13
T14
T4
Top Cover Safety & Door Switch
CN3-1
CN3-2
CN3-3
M
9µ
IC102, 104
74LS00
IC101
TD62503
IC105
74LS08
IC103
74LS10
R120 10K
R127 5.6K
Q103 2SA1015
SSR101
SSR100
2x D2W203F
(CN104)
CN2-1 AC.N
CN2-2 Up
CN2-3 Down
(CN100)
(CN102)
CN409-1 Vcc
CN409-2 Size 2-5
CN409-3 Size 2-4
CN409-4 Size 2-3
CN409-5 Size 2-2
CN409-6 Size 2-1
CN409-7 Scan 2
CN409-8 Scan 1
CN409-9 Paper End 1
CN409-10 Paper End 2
CN409-11 By-pass Mode
CN409-12 GND
Vcc CN1-1
Size 2-5 CN1-2
Size 2-4 CN1-3
Size 2-3 CN1-4
Size 2-2 CN1-5
Size 2-1 CN1-6
Scan 2 CN1-7
CN3-1 Vcc
CN3-2 Size 2-5
CN3-3 Size 2-4
CN3-4 Size 2-3
CN3-5 Size 2-2
CN3-6 Size 2-1
CN3-7 Scan 2
Vcc CN13-1
Size 2-5 CN13-2
Size 2-4 CN13-3
Size 2-3 CN13-4
Size 2-2 CN13-5
Size 2-1 CN13-6
Scan 2 CN13-7
DPS101-1
DPS101-2
DPS101-3
DPS101-4
DPS101-5
DPS101-6
5x ISS176 D103 D104 D105 D106 D107
Q102 2SC1815
R122 4.7K
R123 10K
R112 1K
R114 1K
R108 1K
R109 100
C103 10µ
R124 47µ
R125 100
R120 100
C107 0.01µ
R128 470
C108 0.01µ
R135 470
C106 47µ
C112 0.01µ
R134 100
D102 1S1588
R118 100K
C105 10µ
R100 1K
R121 470
R138 100
C117 0.01µ
R113 1K
R105 100
R102 1K
D101 1S1588
R101 10K
C102 47µ
R108 1K
C100 1µ
R103 560K
C101 0.01µ
R115 100
R132 470
R133 100
C109 0.01µ
R131 100
Lift Sensor 2 CN2-1
VAA CN2-2
GND CN2-3
Vcc CN31-1
Scan 2 CN31-2
Paper End 2 CN31-3
Lift Sensor 2 CN31-4
GND CN31-5
Down Key CN31-6
Paper End 2 CN31-7
Paper End:H
Paper Lifted:L
R116 10K
Q101 2SA1015
R117 5.6K
R107 5.6K
Q100 2SC1815
R104 10K
CN4-1 Vcc
CN4-2 H.P.Sensor
CN4-3 GND
CN4-4 Down Key
CN4-5 Down Indicator
CN4-6 Door Indicator
CN4-7 Door SW.
CN4-8 NC
Vcc CN12-1
GND CN12-2
H.P. Sensor CN12-3
H.P. :H
H.P. Sensor
Vcc CN11-1
Down Key CN11-2
Down Indicator CN11-3
Door Indicator CN11-4
CN406-1 Vcc
CN406-2 Volume 2-5
CN406-3 Volume 2-4
CN406-4 Volume 2-3
CN406-5 Volume 2-2
CN406-6 Volume 2-1
CN406-7 Scan 2
CN406-8 Vcc
CN406-9 GND
CN406-10 Lift Sensor 2
CN106-1 NC
CN106-2 NC
CN106-3 NC
CN106-4 NC
CN106-5 NC
CN106-6 NC
CN106-7 NC
CN106-8 Vcc
CN108-9 GND
CN106-10 Lift Sensor 2
CN109-1 Vcc
CN109-2 NC
CN109-3 NC
CN109-4 NC
CN109-5 NC
CN109-6 NC
CN109-7 GND
CN109-8 Scan 1
CN109-9 Scan 2
CN109-10 PaPer End 2
CN109-11 By-Pass Mode
CN109-12 GND
R130 1K
TL7705 IC106
C111 0.1µ
C110 0.1µ
R138 10K
R119 1K
R111 1K
R110 100
C104 10µ
Down Key CN115-1 CN15-1
CN408-1 VAA
CN408-2 Lift Motor 1
CN408-3 VAA
CN408-4 NC
CN105-1 VAA
CN105-2 Lift Motor 1
CN105-3 NC
CN105-4 NC
Vcc CN121-1
Volume 2-5 CN121-2
Volume 2-4 CN121-3
Volume 2-3 CN121-4
Volume 2-2 CN121-5
Volume 2-1 CN121-6
Scan 2 CN121-7

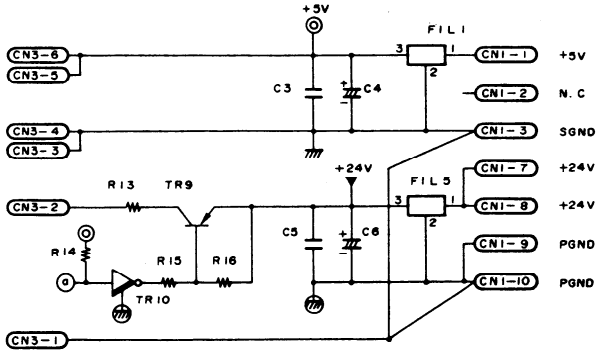
12. MENU READER PCB (upper)

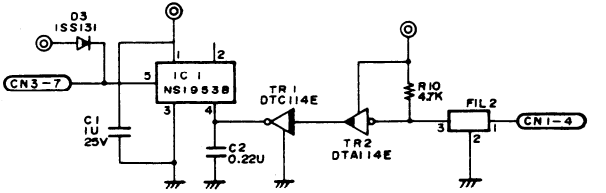


13. MENU READER PCB (lower)









SECTION 7

PAPER BANK

Contents

PAPER BANK

1. SPECIFICATIONS 7-1

2. MECHANICAL COMPONENT LAYOUT 7-2

3. ELECTRICAL COMPONENT LAYOUT 7-3

4. OVERVIEW 7-4

5. PAPER FEED CLUTCH ON TIMING 7-5

6. PAPER SIZE AND VOLUME SENSORS 7-6

7. LIFT MOTOR CONTROL AND PAPER END DETECTION 7-7

7.1 Lift Motor Control 7-7

7.2 Paper End Detection 7-8

8. INSTALLATION 7-9

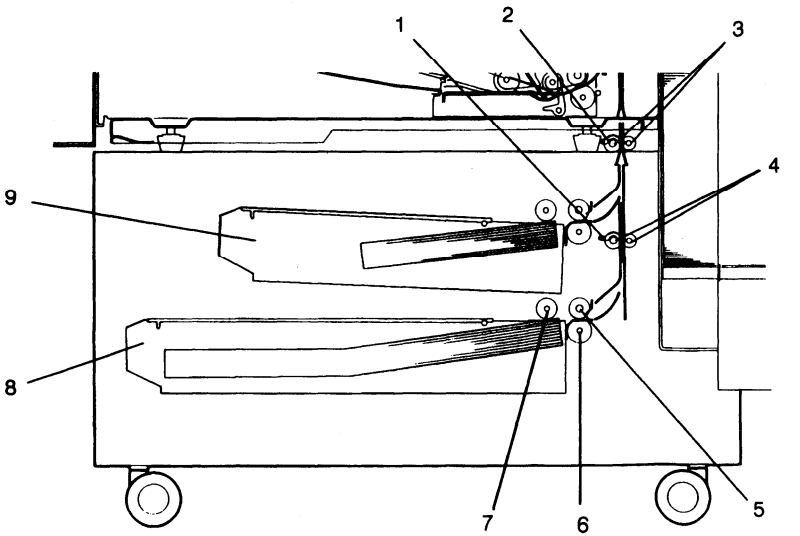
8.1 Accessory Check 7-9

8.2 Installation Procedure 7-10

1. SPECIFICATIONS

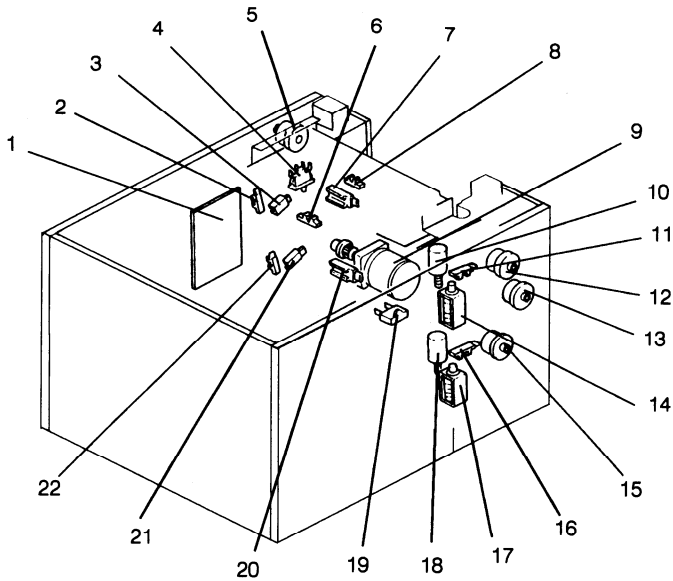
Copy Paper Size:	Maximum: A3 or 11" x 17" Minimum: B6 or 5½" x 8½"
Copy Paper Weight:	50 g to 110 g (14 lb to 28 lb)
Paper Capacity:	Two universal cassettes holding about 500 sheets each
Paper Feed System:	Feed and reverse roller (FRR)
Power Source:	100 V, 50 Hz/60 Hz, 0.6 A
Power Consumption:	Maximum: 60 W
Dimensions:	745 mm x 447 mm x 612 mm (W x D x H) (30.4") (18.2") (25")
Weight:	19 kg

2. MECHANICAL COMPONENT LAYOUT



1. Third Relay Sensor
2. Second Relay Sensor
3. Second Relay Rollers
4. Third Relay Rollers
5. Paper Feed Roller
6. Separation Roller
7. Pick-up Roller
8. Fourth Cassette
9. 3rd Cassette

3. ELECTRICAL COMPONENT LAYOUT



1. Cassette Bank PCB
2. 3rd Cassette Paper End Sensor
3. 3rd Paper Volume Sensor
4. Right Door Safety Switch
5. 2nd Feed Relay MC
6. 3rd Relay Sensor
7. 3rd Paper Size Sensor
8. 2nd Relay Sensor
9. Cassette Bank Motor
10. 3rd Lift Motor
11. 3rd Lift Sensor
12. 3rd Paper Feed MC
13. 3rd Feed Relay MC
14. 3rd Pick-up SOL
15. 4th Paper Feed MC
16. 4th Lift Sensor
17. 4th Pick-up SOL
18. 4th Lift Motor
19. Cassette Bank Motor Capacitor
20. 4th Paper Size Sensor
21. 4th Paper Volume Sensor
22. 4th Cassette Paper End Sensor

4. OVERVIEW

This unit adds two additional universal cassettes (500 sheets each), which are the third and fourth cassettes, to the copier.

Both the third and fourth paper feed stations have an FRR (Feed and reverse roller) mechanism which is similar to the feed system of the copier, except for the following items.

1. Both third and fourth cassette bottom plates can be lowered mechanically to load paper without removing the cassettes.
2. The pick-up, paper feed, and separation rollers are driven by the bank motor (an ac motor) via the third and fourth paper feed clutches and gears.

The second and third relay rollers transport paper to the registration rollers of the copier. They are driven by the bank motor. The second and third relay sensors monitor the paper feed timing.

To facilitate loading paper and removing misfed paper, the following four mechanisms are included in the bank.

1. Front Loading Mechanism

The paper supply unit can be pulled all the way out. This mechanism makes paper loading and misfeed removal easy.

2. Right Cover

Misfed paper remaining in between the bank and copier can be removed by opening this cover.

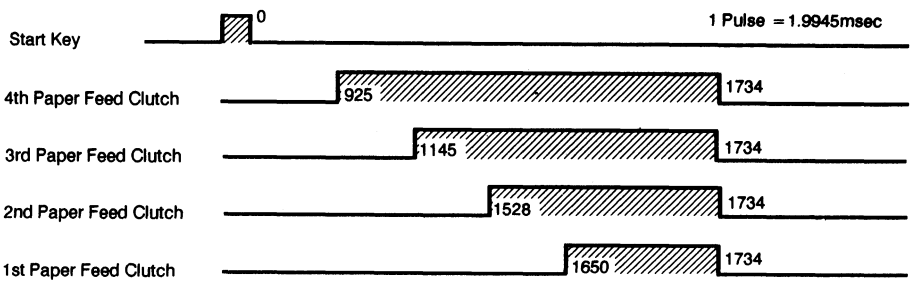
3. Slide Mechanism

When the LCT is installed on the right side of the bank, it is impossible to open the right cover for misfeed removal. The slide mechanism, however, slides the paper supply unit to the left (after pulling the paper supply unit all the way out) for removal of misfed paper.

4. Second Relay Roller Drive Mechanism

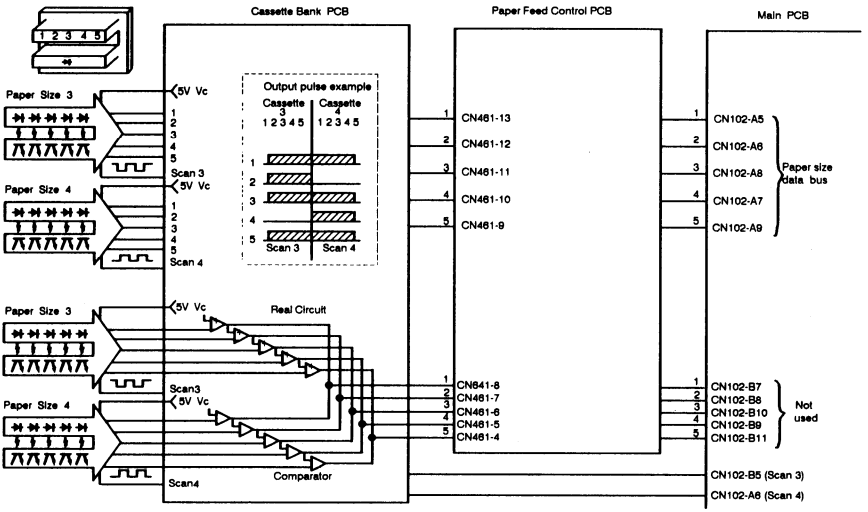
This mechanism allows you to manually rotate the second relay roller to remove the misfed paper.

5. PAPER FEED CLUTCH ON TIMING



The paper path length from each paper feed station to the registration rollers is different. For this reason, the paper feed magnetic clutch on timing for each paper feed station is different.

6. PAPER SIZE AND VOLUME SENSORS



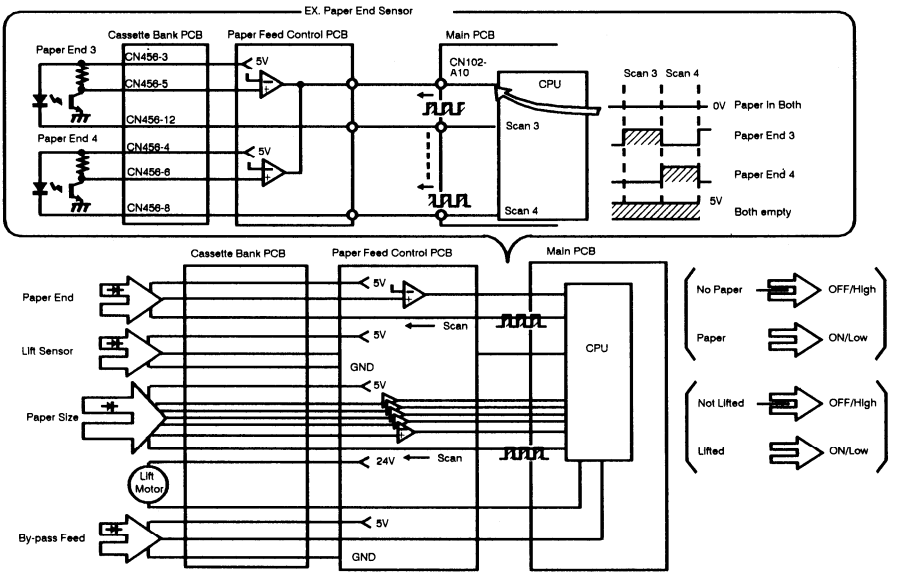
The CPU sends separate scan pulses (SCAN 3, 4) to the corresponding sensors of the cassette bank. The output of this group of sensors for all cassettes can be monitored by one data bus because the scan pulses are sequential, allowing the CPU to determine which cassette information is being received.

In the above diagram, two example actuator plates are shown. The actuator plates in cassette 3 and cassette 4 paper size sensors in the cassette bank have notches in the fourth and second positions respectively. Where there are notches, the photointerruptors remain activated (0 volts). Thus, when scan line 3 is high, bit 4 of the data bus remains LOW; when scan line 4 is high, bit 2 of the data bus remains LOW. The CPU monitors the data bus at the appropriate time to determine the paper size in cassettes 3 and 4 of the cassette bank.

Signals from the volume sensors are sent to the copier main PCB through the cassette bank PCB and the paper feed control PCB; however, the copier operation panel will not indicate how much paper remains in the cassettes.

7. LIFT MOTOR CONTROL AND PAPER END DETECTION

7.1 LIFT MOTOR CONTROL



The paper size sensor is also used as a cassette set sensor. When the paper size actuator plate is inserted into the paper size sensor, certain photointerruptors turn off (0 volts to 5 volts). After receiving a 5-volt signal through the paper size data bus, the CPU turns on the lift motor.

The CPU energizes the lift motor until the lift sensor is de-actuated. When the lift sensor is de-actuated, the photointerruptor is ON and its output drops from 5 volts to ground. After receiving the 0 volt signal, the CPU turns off the lift motor.

7.2 PAPER END DETECTION

After the last sheet of paper from a cassette has been fed, the Load Paper indicator lights. Photointerruptors are used for the third and fourth paper end sensors. When either one of the sensors is actuated, the photointerruptor turns off (0 volts to 5 volts). The CPU detects paper end by monitoring the output of these sensors.

As with the paper volume and paper size sensors, the CPU uses the same scan pulses to monitor these sensors.

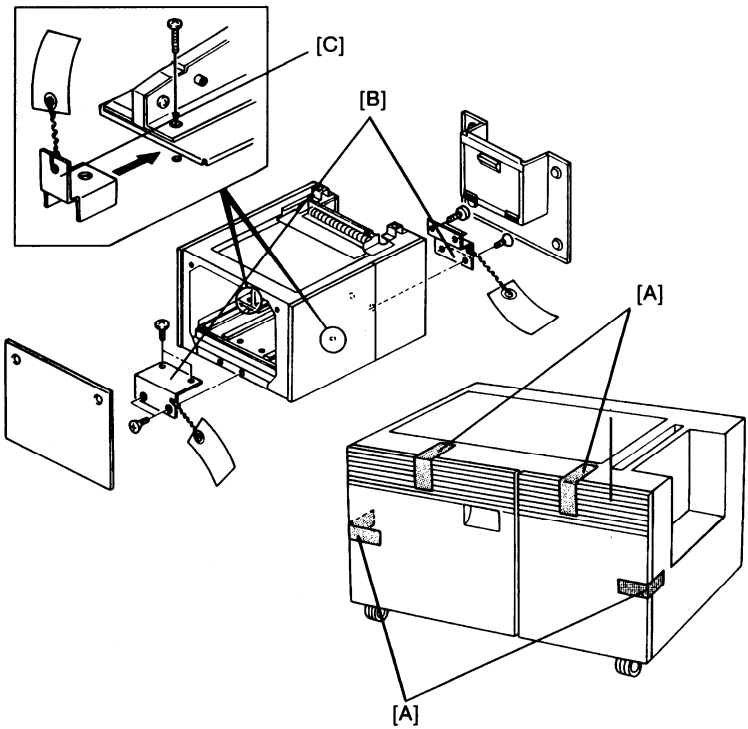
8. INSTALLATION

8.1 Accessory Check

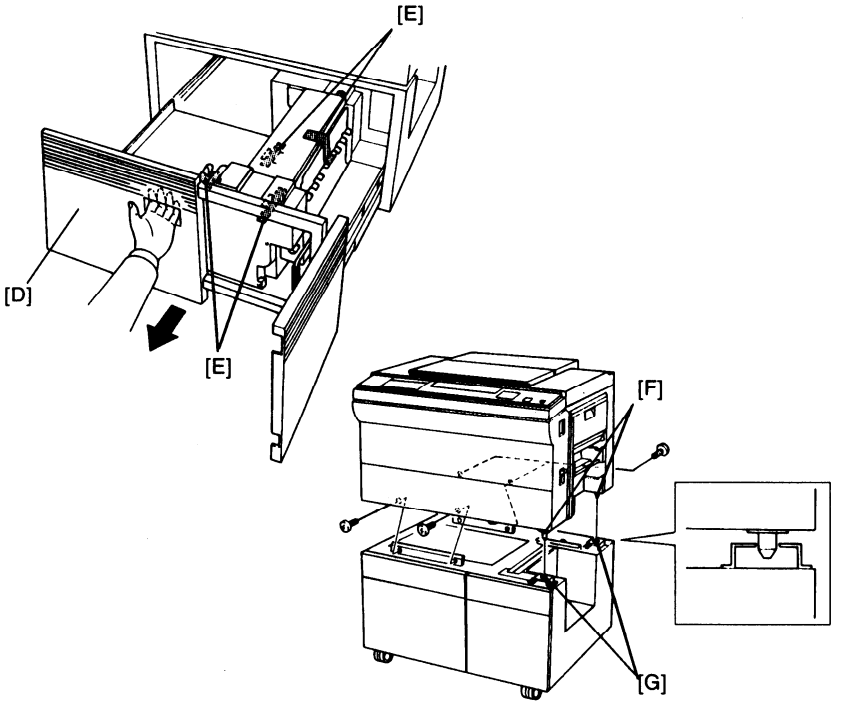
Check the quantity and condition of the accessories in the box according to the following list:

1. Relay Rollers Drive Ass'y	1
2. Screw - M4 x 8	6
3. Multiple Language Decal (220/240V only)	1
4. NECR	1
5. Envelope - NECR (115V only)	1

8.2 Installation Procedure



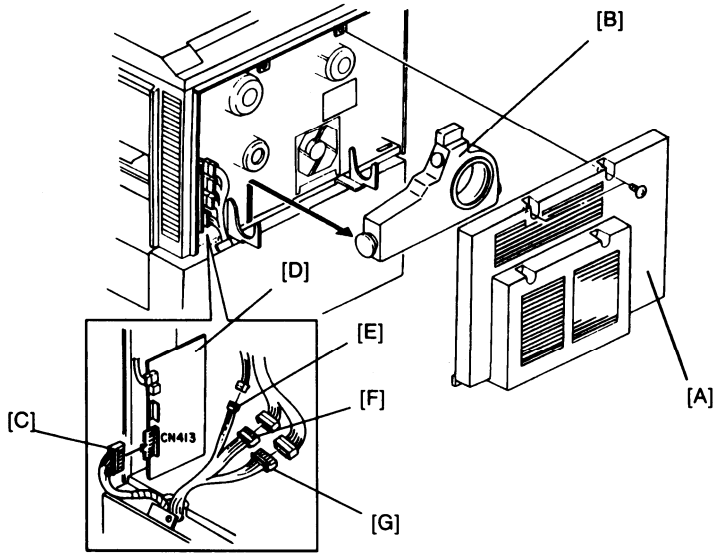
1. Remove the external strips of tape [A]. Remove the right cover (4 screws) and the left cover (2 screws), then remove the right and left retainers [B] (4 screws each) and the front and rear retainers [C] (1 screw each) from the paper feed unit.



2. Pull the drawer [D] all the way out, and remove the strips of tape [E].

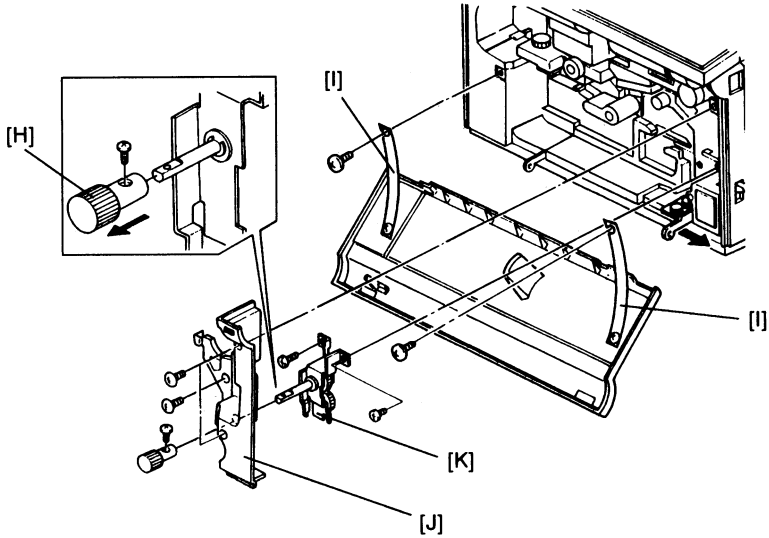
3. Dock the copier to the cassette bank so that the pins of the copier [F] are inserted into the positioning holes [G] of the cassette bank. Then, secure the copier to the cassette bank (4 screws).

CAUTION: Be careful not to crush the copier harness and the copier cassette bank.



4. Remove the copier rear cover [A] (2 screws) and the toner collection bottle [B].

5. Connect the 14P connector [C] of the cassette bank to CN413 on the paper feed control board [D] of the copier. Connect the free connectors of the cassette bank to the free connectors of the copier (Red 2P [E] & Red 8P [F], White 10P [G]).



6. Remove the knob [H] from the relay roller drive assembly (1 screw). Remove the support straps [I] (1 screws each), the copier front cover (2 knob screws).
7. Remove the right inner cover [J] (4 screws), and install the relay roller drive assembly [K] (2 screws).
8. Reinstall the right inner cover and the knob.
9. Check the operation of the cassette bank and the copier system.
10. Fill out the New Equipment Condition Report.

SECTION 8

ARDF

Contents

DOCUMENT FEEDER

1. SPECIFICATIONS 8-1

2. BASIC OPERATION 8-2

2.1 Interface 8-2

2.2 Single-sided Original Feed 8-3

2.3 Two-sided Original Feed 8-4

3. FEED-IN UNIT MECHANISM 8-5

4. SEPARATION MECHANISM 8-6

5. MISFEED PREVENTION 8-7

6. WEAR PREVENTION 8-8

7. FRICTION ROLLER RELEASE MECHANISM 8-9

8. REGISTRATION 8-10

9. INVERTER MECHANISM 8-11

10. FEED-OUT MECHANISM 8-12

11. LIFT MECHANISM 8-13

12. MISFEED CHECK 8-14

13. INSTALLATION 8-16

13.1 Accessory Check 8-16

13.2 Installation Procedure 8-17

14. REPLACEMENT AND ADJUSTMENT 8-25

14.1 DF Belt Drive Motor Speed Adjustment 8-25

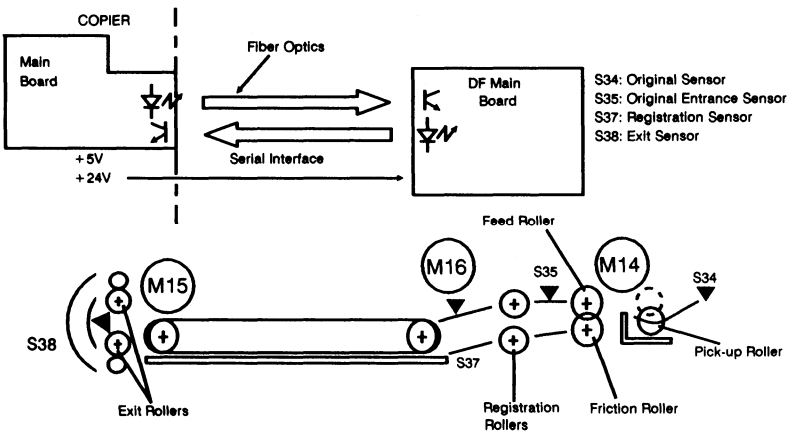
14.2 Inverter Turn Gate Solenoid Adjustment 8-27

1. SPECIFICATIONS

Original Size:	ADF mode Maximum A3 (11" x 17") Minimum A5 (5½" x 8½") SADF mode Max A3 (11" x 17") Min B6 (5½" x 8½") lengthwise
Original Weight:	Maximum 130 grams (34 lb) Minimum 40 grams (11 lb)
Original Feed Modes:	Automatic Feed (ADF mode) Manual Feed one by one (SADF mode)
Original Capacity:	Maximum 50 sheets (80 gram, 20 lb)
Original Separation:	FFR system
Original Transportation:	One flat belt
Original Stop System:	DC servomotor control system
Copying Speed:	50 cpm continuous copy 25 cpm single copy
Power Source:	+24 volts and +5 volts (from copier)
Power Consumption:	20 Watts
ARDF Dimensions: (W x D x H)	976 x 522 x 104 (millimeters) 38.4 x 20.6 x 4.1 (inches)
ARDF Weight:	12 kg (26.41 lb)

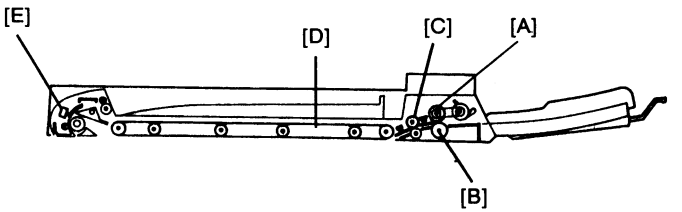
2. BASIC OPERATION

2.1 INTERFACE



The DF has its own CPU which controls all of the DF functions. The DF CPU communicates with the copier through an interface board and serial interface bus. Fiber optics are used for the serial interface bus because they are unaffected by electrical noise.

2.2 SINGLE-SIDED ORIGINAL FEED



- Feed-in -

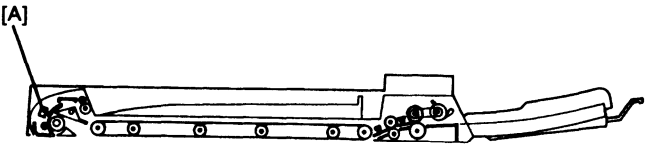
The DF CPU energizes the stopper and pick-up solenoids, and then turns on the feed-in motor. The feed [A] and friction rollers [B] separate and feed an original to the registration rollers [C].

A short time after the original reaches the registration rollers, the DF CPU turns on the belt motor and energizes the registration solenoid. Original skew is corrected by the time lag. The belt [D] then feeds the original to the exposure glass, while the CPU counts the pulses of the belt motor encoder. At the proper time, the CPU stops the belt motor.

- Feed-out -

When the DF CPU receives the feed-out signal from the copier, it turns on the feed-out motor. When the exit sensor [E] is deactuated by the trailing edge of the original, the CPU reduces the speed of the feed-out motor to feed the original out completely. This stacks the originals neatly.

2.3 TWO-SIDED ORIGINAL FEED



- **Feed-in -**

The operation in this mode is exactly the same as that in the single-sided original feed mode until the registration solenoid turns on. The original is then inverted in order to copy the reverse side of the original first. The reverse side is copied first to stack the copies in the correct order.

- Inversion -

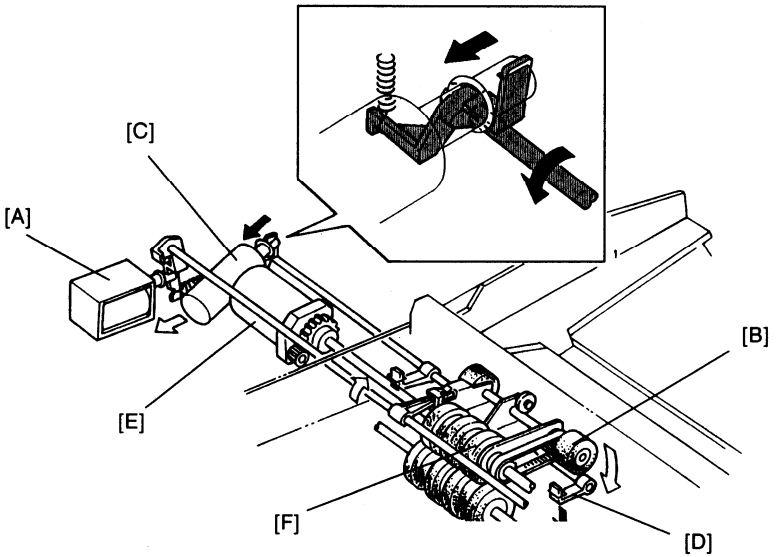
To invert the original, the CPU turns on the belt drive motor, turns on the feed-out motor, and energizes the inverter gate solenoid. The belt drive motor reverses 75 milliseconds after the leading edge of the original passes the exit sensor [A], but the feed-out motor continues driving the orignal forward.

The belt drive motor turns off 532 pulses after the trailing edge of the original passes the exit sensor. This ensures that the original stops at the correct position.

- Feed-out -

The basic operation in this mode is exactly the same as that in the single-sided original feed mode.

3. FEED-IN UNIT MECHANISM

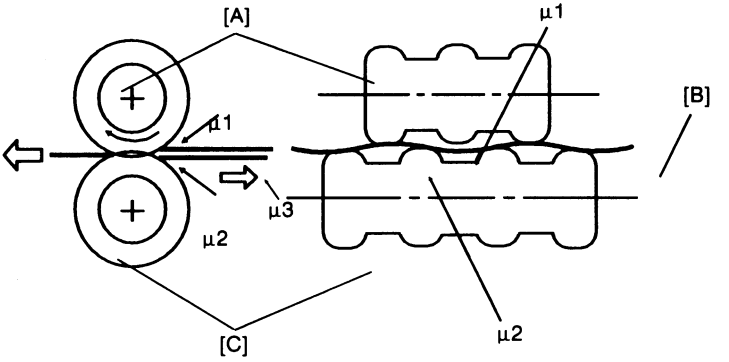


After an original is inserted into the feed-in unit and the Start key is pressed, the DF CPU energizes the pick-up solenoid [A]. This causes the pick-up roller [B] to drop onto the original(s). At the same time, the DF CPU energizes the original stopper solenoid [C] to retract the stopper claws [D].

In ADF mode, the original stopper claws stay underneath the original feed table until all the originals have been fed in. In SADF mode, the stopper claws rise for each original.

The DF CPU turns on the feed-in motor [E] 200 ms after energizing the solenoids. This starts turning the feed rollers [F] and the pick-up rollers.

4. SEPARATION MECHANISM



μ1 - Coefficient of friction between the feed rollers [A] and the original [B].

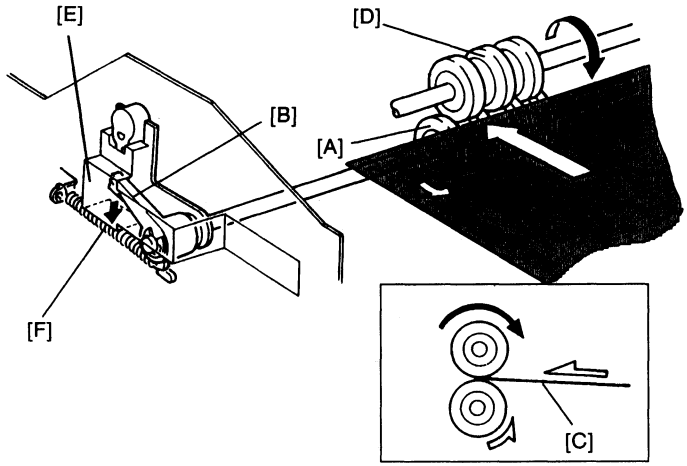
μ2 - Coefficient of friction between the friction rollers [C] and the original.

μ3 - Coefficient of friction between originals.

This model uses an FFR (Feed and Friction Roller) original feed system with three sets of rollers (feed, friction and pick-up rollers). The feed and friction rollers have grooves in them which interlock with one another. The rollers interlock to decrease damage to the originals (particularly pencil written originals) from direct roller-to-roller pressure.

The pick-up roller sometimes sends more than one original to the feed and friction rollers. When this happens, the friction rollers strip the extra original from the top original. m1 is greater than m3 and m2 is greater than m3. Therefore, the top original will slide past the friction rollers while lower originals stop.

5. MISFEED PREVENTION

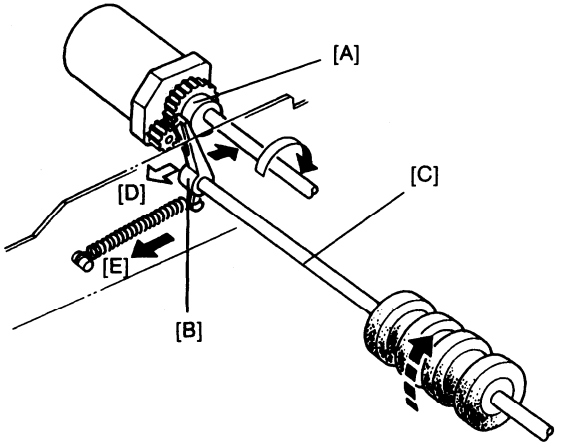


The front side of the friction roller [A] is attached to the misfeed prevention lever [B] via a one-way clutch.

When the leading edge of an original [C] first contacts the feed [D] and friction rollers, the friction roller is stationary. As the leading edge is fed between these rollers, the friction roller rotates counterclockwise a few degrees to help feed thick originals. After the friction roller has rotated a few degrees, the misfeed prevention lever contacts the stopper plate [E] and the friction roller stops rotating. At this point, the separation mechanism will eliminate double feed.

When the trailing edge of the original passes the friction roller, the spring [F] returns the lever to its original position without rotating the friction roller shaft.

6. WEAR PREVENTION

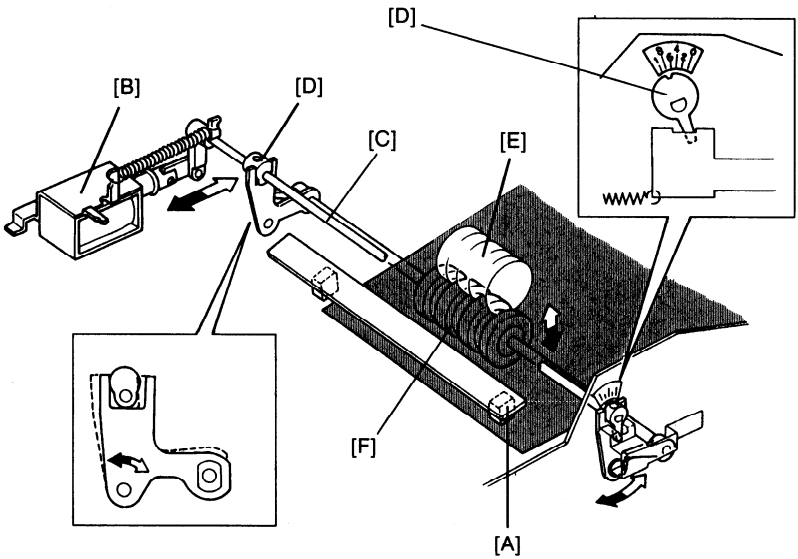


The rear side of the feed roller shaft drive gear has an eccentric cam [A]. This cam contacts the wear prevention lever [B] which is attached via a one-way clutch to the friction roller shaft [C]. This lever is free to rotate in the direction of the white arrow [D].

As the feed roller drive gear rotates, the high point of the cam pushes back the wear prevention lever in the direction of arrow [D]. As the cam rotates to the low point, a spring returns the wear prevention lever to its original position (black arrow [E]). When the wear prevention lever returns, it rotates the friction roller shaft through the one-way clutch.

Every time the feed roller shaft rotates once, the friction roller shaft rotates a few degrees. This prevents the friction roller from wearing unevenly or too quickly.

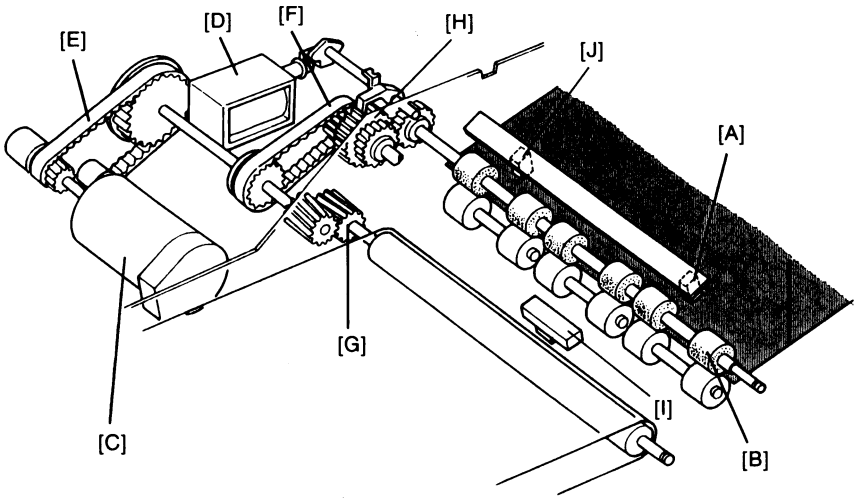
7. FRICTION ROLLER RELEASE MECHANISM



In the ADF mode, when the original activates the original entrance sensor [A], the DF CPU energizes the roller release solenoid [B]. This action rotates the roller release cam shaft [C], which has an eccentric cam [D] on each end, to decrease the overlap of the feed [E] and friction rollers [F]. This prevents smearing of the originals due to the friction roller. The overlap is 0.9 mm when the solenoid is off, and 0.4 mm when it is on.

In the SADF mode, it is not necessary to separate the originals, so the DF CPU energizes the roller release solenoid and releases the friction roller before feeding the original.

8. REGISTRATION



NOTE: In the following discussion, ADF timing is in parentheses.

The DF CPU stops the feed-in motor 25 milliseconds after the leading edge of the original activates the original entrance sensor [A]. The forward momentum of the original causes it to align against the registration roller [B] (skew correction).

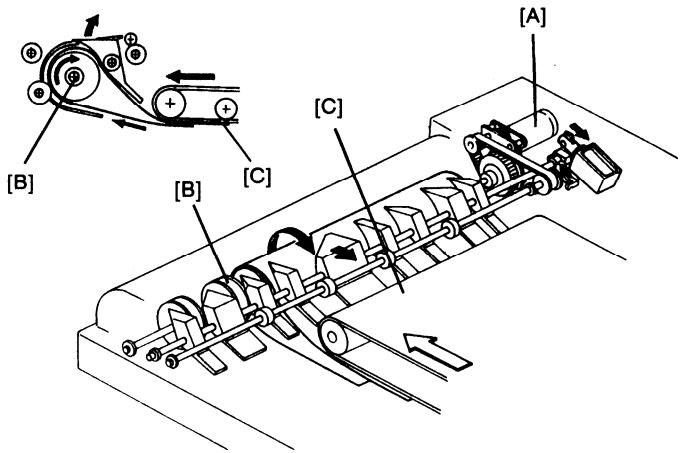
After a further 30 milliseconds, the DF CPU energizes the belt drive motor [C] and the registration solenoid [D]. Rotation of the belt drive motor is transmitted via the timing belts [E and F], belt drive gear [G], registration clutch [H], and registration roller gear.

The DF CPU starts counting the belt motor pulses when the leading edge of the original activates the registration sensor [I]. When the pulse count reaches 1,844 pulses, the original is at the proper position. The DF CPU then stops the belt drive motor.

In Auto P.S. or Auto R/E mode the ADF automatically determines the original size. The original size is measured by a combination of the original width sensor [J] and the registration sensor. The registration sensor measures the length of the original by counting pulses as the original passes under it.

The registration sensor is also a jam detector.

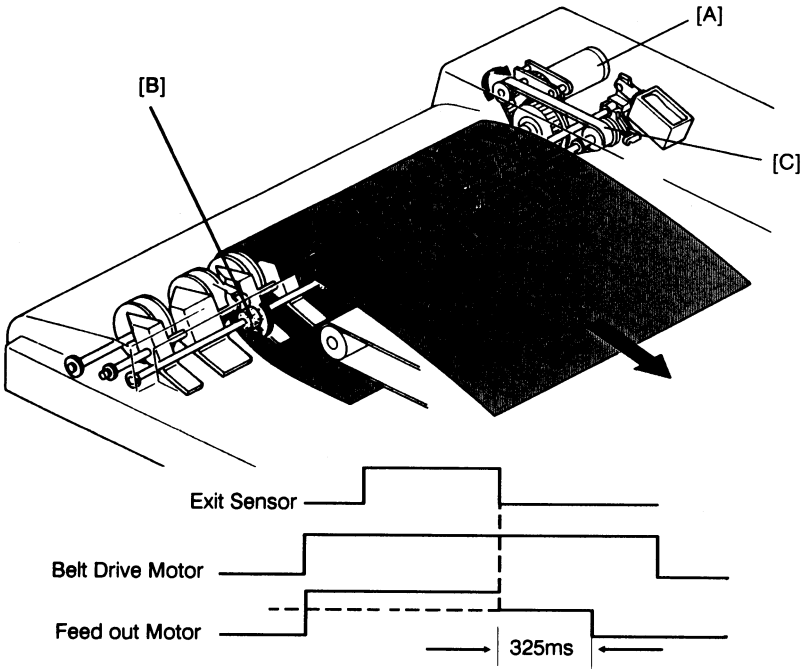
9. INVERTER MECHANISM



In the two-sided original mode, the belt drive motor reverses 75 milliseconds after the leading edge of the original passes the exit sensor; however, the feed-out motor [A] continues to turn forward. Since the friction between the turn roller [B] and the original is greater than the friction between the DF belt [C] and the original, the original continues to move forward through the inverter mechanism.

The belt drive motor and the feed-out motor turn off 532 pulses after the trailing edge of the original passes the exit sensor. This aligns the trailing edge of the original with the original scale.

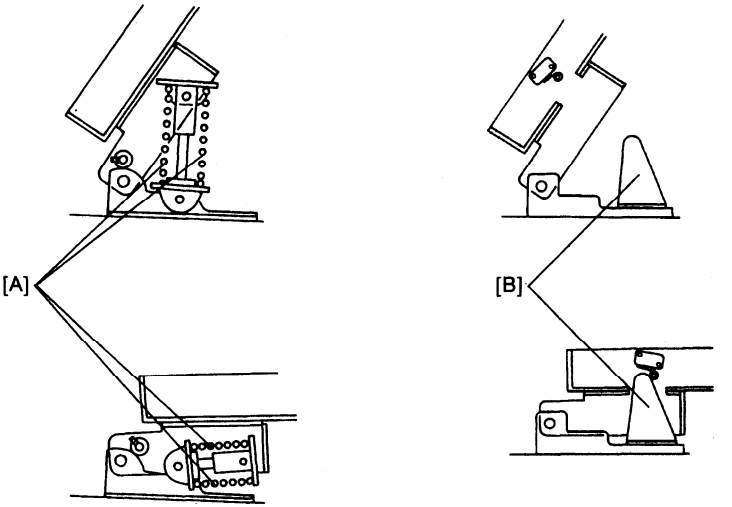
10. FEED-OUT MECHANISM



When the DF CPU receives the feed-out signal, it energizes the belt drive and feed-out [A] motors. The feed-out motor drives the exit rollers [B] through the timing belt [C].

The DF CPU slows down the feed-out motor when the trailing edge of the original passes the exit sensor. The feed-out motor continues to turn at this slower speed to feed the original to the original stacker. This slow-down exit function produces a neat stack of originals.

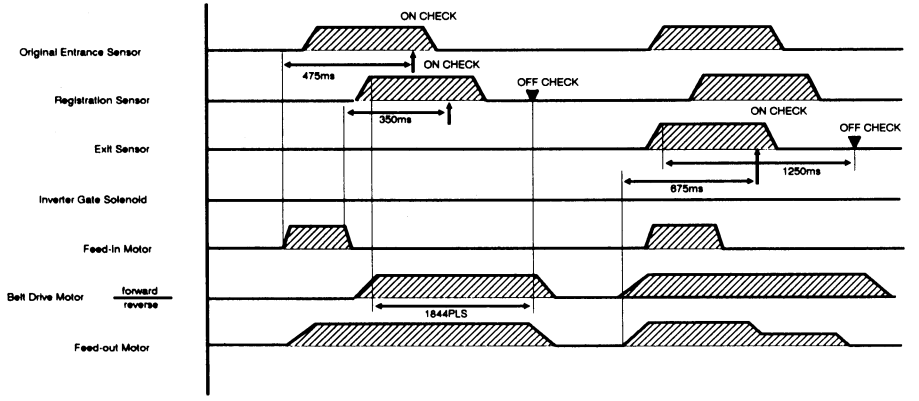
11. LIFT MECHANISM

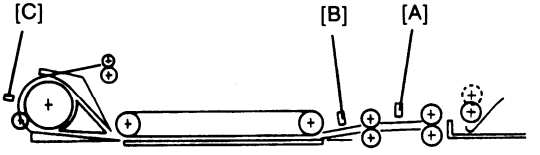


The lift spring [A] resists the weight of the belt unit, making it easier to lift the belt unit.

When the belt unit is lifted, the detent arm [6] turns on the lift switch. At the same time, the DF CPU sends a signal to the copier CPU. This signal enables the copier to operate without the document feeder. While the lift switch is on, the DF modes are prohibited.

12. MISFEED CHECK





During single-sided mode, three sensors check for misfeeds: the original entrance sensor [A], registration sensor [B], and exit sensor [C]. After the feed-in motor turns on, the original activates the original entrance sensor. The DF CPU checks to see if the original entrance sensor has been activated (original entrance sensor ON check) 475 ms after the feed-in motor turns on. Then, 350 ms after the original entrance sensor is activated, the DF CPU checks to see if the registration sensor has been activated (registration sensor ON check).

The OFF check is carried out when the belt drive motor turns off. The DF CPU checks to see if the registration sensor has been deactivated (registration sensor OFF check). There is no off check for the original entrance sensor.

The ON check for the exit sensor is performed 675 milliseconds after the feed-out and belt drive motors are re-energized. The OFF check for the exit sensor is performed 1,250 ms after the exit sensor is activated.

During two-sided original mode, three sensors detect misfeeds. The ON checks for the original entrance sensor and the registration sensor are the same as when in single-sided mode.

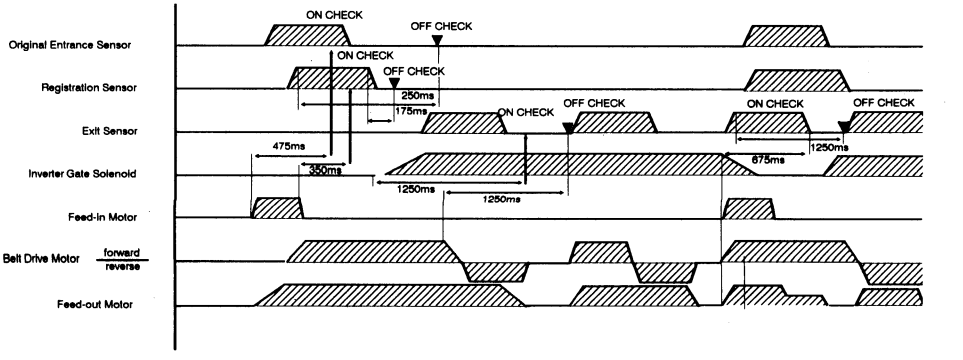
The DF CPU checks if the original entrance sensor has been deactivated 1,250 milliseconds after the registration sensor is activated (original sensor OFF check).

The DF CPU checks if the registration sensor has been deactivated 175 milliseconds after the original entrance sensor is deactivated.

When the original is inverted for the first time, the ON check for the exit sensor is 1,250 milliseconds after the inverter gate solenoid turns on. The OFF check for the exit sensor is 1,250 milliseconds after the belt drive motor reverses.

When the original is fed out, the OFF check and ON check for the exit sensor are the same as in the single-sided mode.

When a misfeed is detected, the DF CPU stops the DF and sends a misfeed signal to the copier. The misfeed condition is cancelled by deactuating the lift switch.



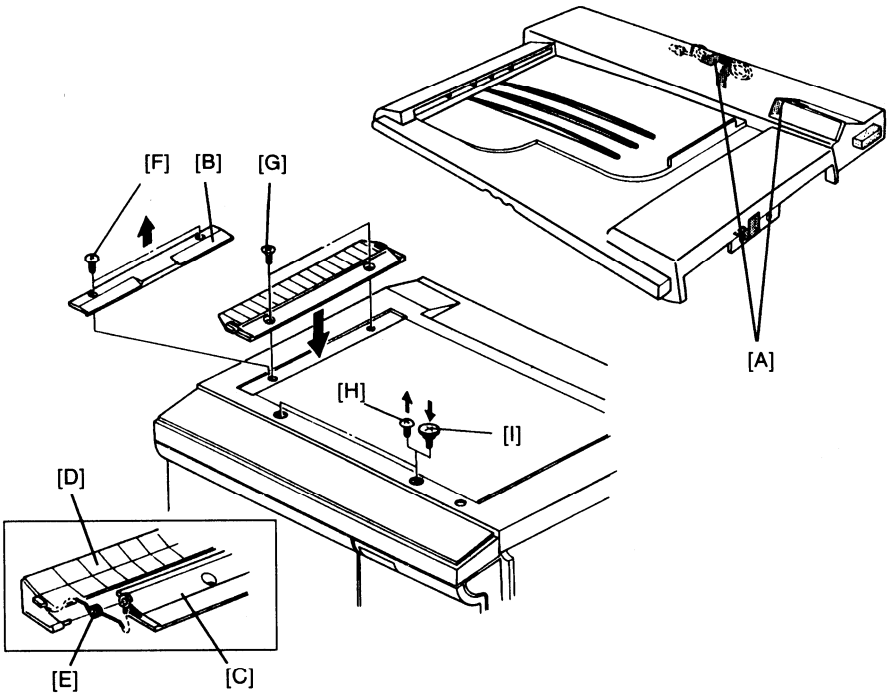
13. INSTALLATION

13.1 Accessory Check

Check the quantity and condition of the accessories in the box according to the following list:

1. Original Exit Guide	1
2. Flip Scale	1
3. Flip Scale Spring	1
4. Original Table	1
5. Original Table Cover	1
6. Nylon Harness Bushing	1
7. Harness Bracket	1
8. Nylon Clamp N7	1
9. Lift Switch Actuator Plate	1
10. Test Chart A4	1
11. Toothed Washer	1
12. Ground Screw M4 x 8	1
13. Flathead Shoulder Screw M4 x 8 (Magnet Catch)	2
14. Flathead screw M4 x 6	2
15. Pan Head Screw M4 x 6	8
16. Pan Head Screw with Washer M4 x 10	2
17. Pan Head Screw M4 x 10	3
18. Flathead Screw M4 x 12	1
19. Tapping Screw M4 x 8	1
20. Multiple Language Decal (220/240V Only)	1
21. NECR	1
22. Envelope - NECR (115V Only)	1
23. ARDF Fixing Plate (Not used for this installation)	1
24. Pan Head Screw M5 x 8 (Not used for this installation)	4

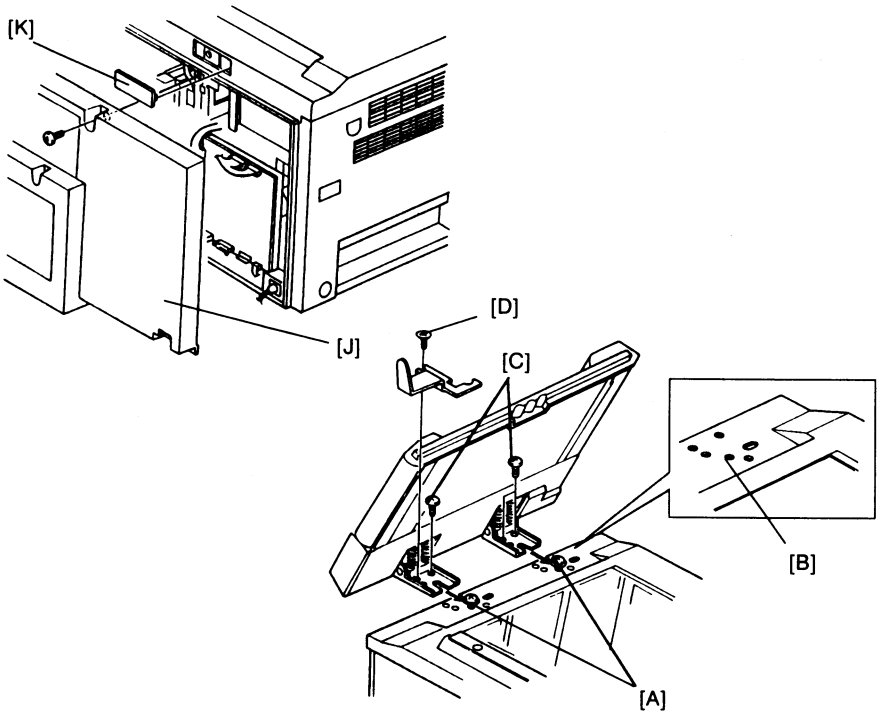
13.2 Installation Procedure



1. Remove all the external strips of tape [A].
2. Turn off the main switch of the copier, and exchange the following parts:

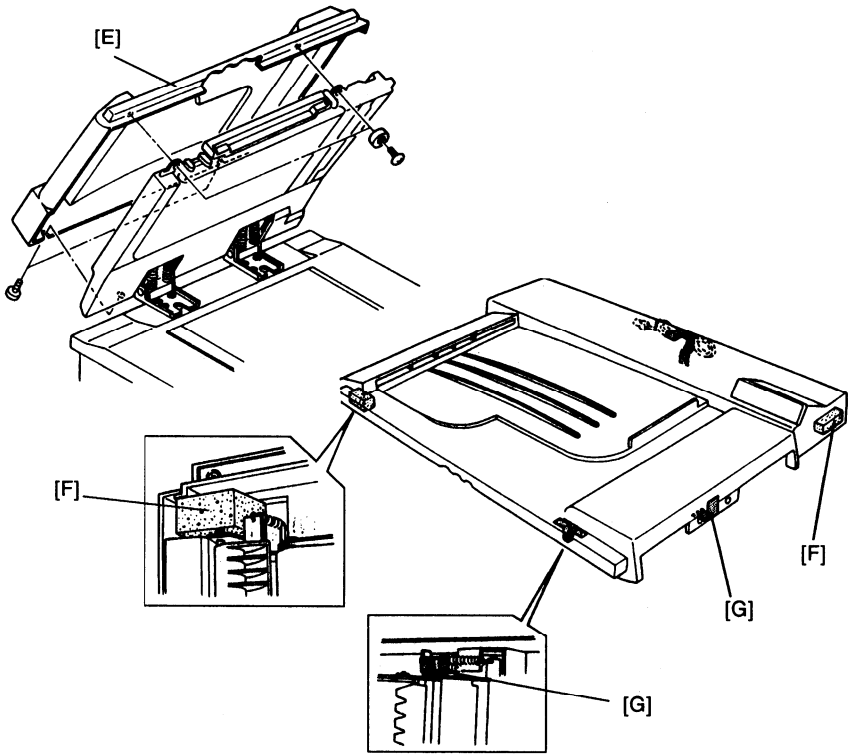
Remove	Install
Left Scale [B]	Exit Guide [C]
	Flip Scale [D]
	Flip Scale Spring [E]
Pan Head Screw - M4 x 6 [F]	2 Flathead Screw - M4 x 6 [G]
Pan Head Screw - M4 x 8 [H]	2 Flathead Shoulder Screw - M4 x 8 [I]

NOTE: If the platen cover has been mounted on the machine, remove the platen cover and the two stud screws.

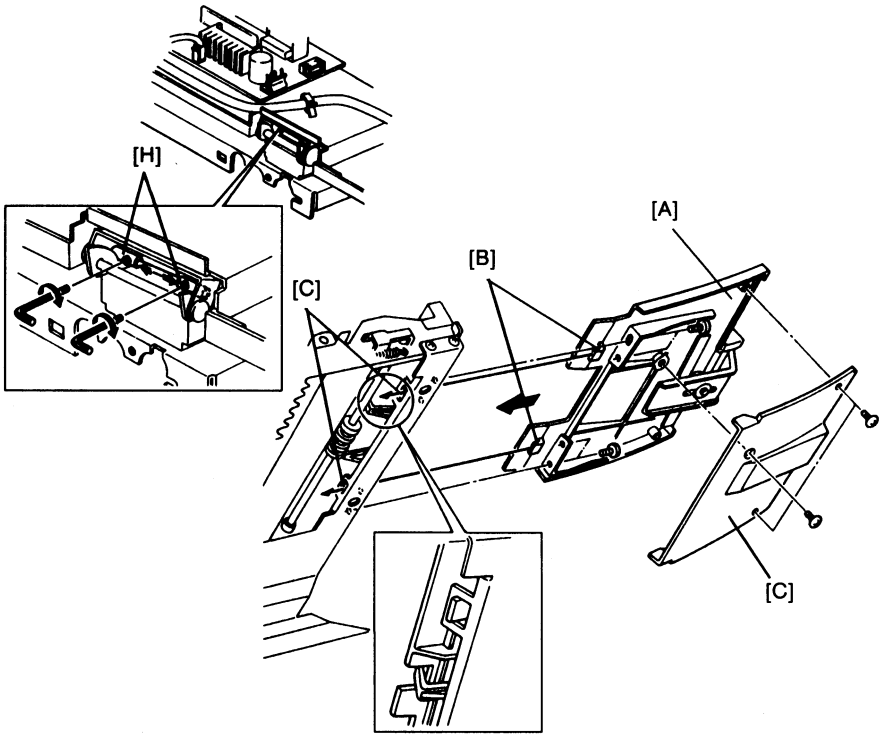


3. Remove the copier rear cover [J] (2 screws) and the plastic cap [K].

4. Temporarily secure the two screws [A] (pan head screws with washer M4 x 10) in the holes [B] on the upper cover, and install the DF. Then, secure it with the lift switch actuator plate (3 pan head screws - M4 x 10 [C], 1 flat head screw - M4 x 10 [D]).



5. Remove the DF cover [E] (4 screws), and remove the shipping retainers (2 foam pads [F], 2 strips of tape [G]).

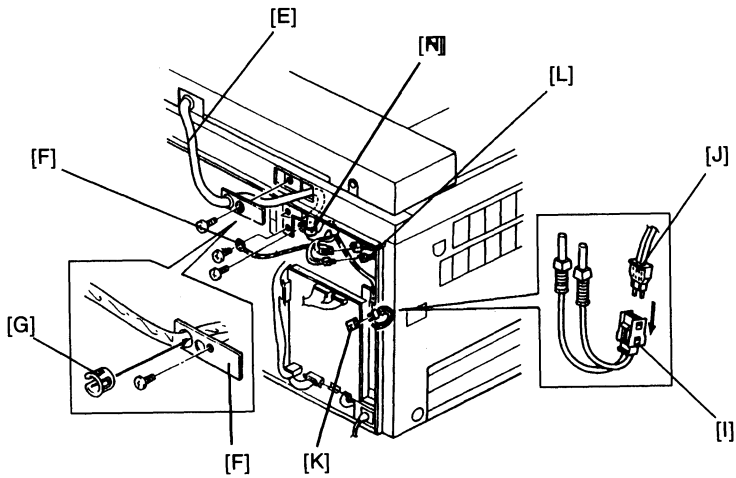


6. Move the DF stoppers [H] to the ends as shown and tighten the Allen screws.

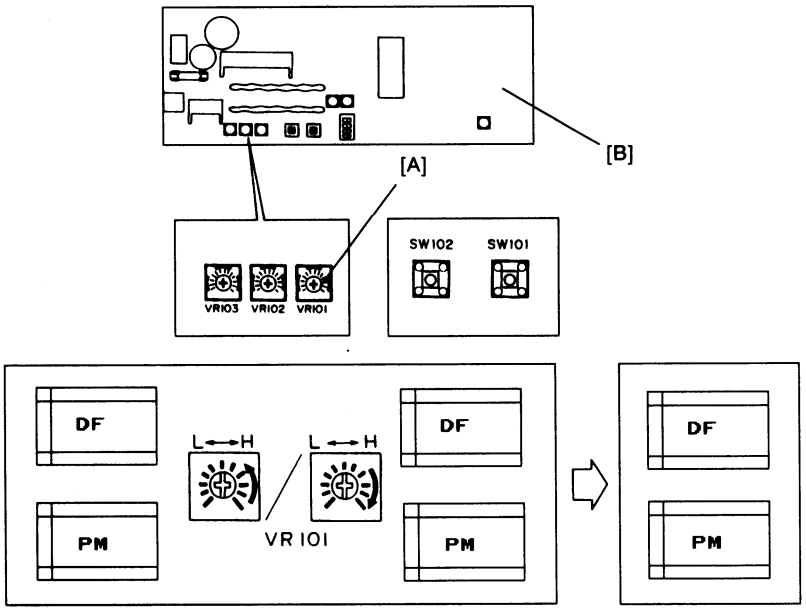
CAUTION: When the DF cover is removed, the DF unit tends to fly up easily.

7. Install the original feed table [A] on the right side of the belt unit (4 pan head screws - M4 x 6). (Be sure to engage the 2 hooks [B] of the original table with the docking holes [C] of the belt unit.)

8. Install the original table cover [D] under the original table (3 pan head screws - M4 x 6).



9. Pass the DF interface harness [E] through the hole in the harness bracket [F], and install the harness bushing [G]. Then, secure the harness bracket to the copier (1 tapping screw - M4 x 8).
10. Remove the fiber optics adapter [I] (not needed for this installation), and connect the optic cable [J] to CN112 [K] on the copier main board.
11. Connect the free connector (4P White [L]).
12. Secure the ground wire [M] (1 ground screw and toothed washer).
13. Secure the harnesses with a clamp [N] (1 pan head screw - M4 x 6), and reinstall the rear cover.

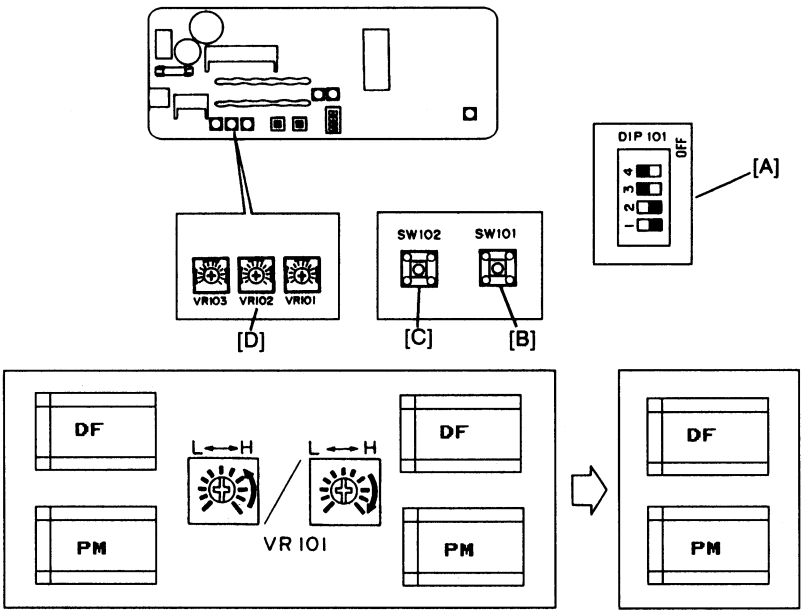


14. Turn on the copier main switch, and set SP 72-1 to enable ARDF operation. (Refer to the copier installation procedure for information on how to access a service program.)

15. Adjust the lead edge registration as follows:
    a) In platen mode, use the flip scale to make a copy of the test chart.
    b) Keep this copy for reference and mark “PM” (Platen Mode) on the reverse side of it.

(Front Side Original)

    c) Use the DF to make a copy of the test chart.
    d) Adjust the DF registration against the platen reference mode (“PM”) using VR 101 [A] on the DF PCB [B].
    PM > DF: Turn VR 101 counterclockwise
    PM < DF: Turn VR 101 clockwise
    e) Continue to repeat steps “c)” and “d)” until you achieve the same registration as in step “b)”.



(Reverse Side Original)

f) Turn off the copier main switch and set DIP SW 101 [A] on the DF main PCB as follows:
ON: 101-3, 4
OFF: 101-1, 2

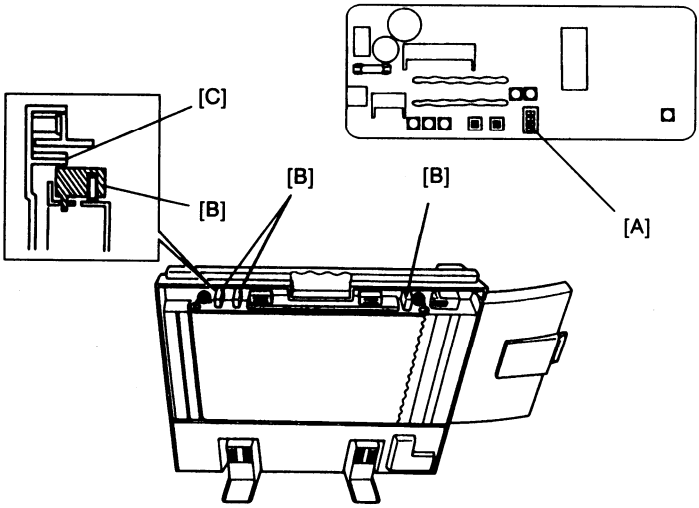
g) Turn on the copier main switch, and set the test chart face up and with the leading edge to the right on the feed-in table.)

h) Press switch 101 [B] on the DF main PCB twice.

i) Press the Start key to make a copy, then press switch 102 [C] to feed out the test chart.

j) Adjust the DF registration against the platen reference mode ("PM") by using VR-102 [D] on the DF main PCB.
PM DF: Turn VR 102 clockwise
PM DF: Turn VR 102 counterclockwise

k) Continue to repeat steps "i)" and "j)" until you achieve the same registration as in step "b)".



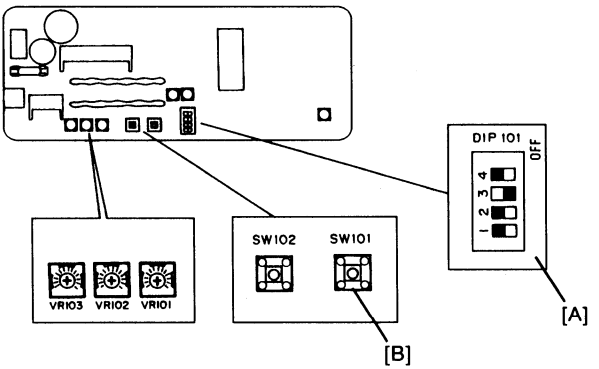
16. Turn off the copier main switch and all the switches of the DIP SW 101 [A] on the DF main PCB.
17. Reinstall all covers.

NOTE: When reinstalling the DF cover, make that the belt holders [B] do not ride on the ribs [C] of the DF cover.

18. Turn on the copier main switch, and check the operation of the DF and the copier system.
19. Fill out the New Equipment Condition Report.

14. REPLACEMENT AND ADJUSTMENT

14.1 DF Belt Drive Motor Speed Adjustment



NOTE: This adjustment should be done whenever the DF main board is replaced.

ADJUSTMENT STANDARD: 2,600 ± 30 rpm

1. Turn off the main switch.
2. Remove the DF cover (4 screws, 2 collars).
3. Lower the DF unit.
4. Turn on DIP SW 101-1, 2, and 4 [A].
5. Turn on the main switch.
   - The belt drive motor will start turning, and the left two digits of the motor speed will be displayed in the original counter.
   - Press SW 101 [B] on the DF main board to display the second two digits of the motor speed.

Example: Motor speed = 2,612 rpm

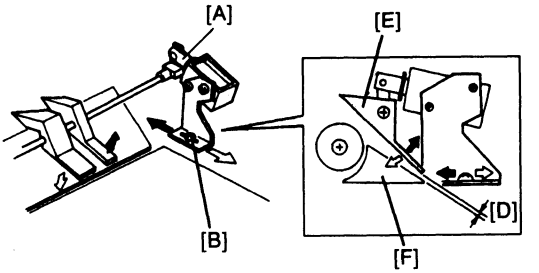
When SW 101 is not pressed, “26” is displayed.

When SW 101 is pressed, “12” is displayed.

6. Adjust the motor speed to 2,600 30 rpm by turning VR 103 on the DF main board.
7. Turn off the main switch, return DIP SW 101 to the normal position, and reassemble. (All switches are off.)

14.2 Inverter Turn Gate Solenoid Adjustment

Adjustment Standard: 1.5 ± 0.5 mm



1. Remove the DF upper cover (4 screws).
2. Manually energize the inverter solenoid [A].
3. Loosen the screw [B] and adjust the position of the inverter solenoid to bring the gap [D] between the turn gate [E] and the guide plate [F] within the adjustment standard.
4. Tighten the screw and install the DF upper cover.

SECTION 9

20 BIN SORTER

Contents

20 BIN SORTER

1. SPECIFICATIONS 9-1

2. BASIC OPERATION 9-2

2.1 Clear Mode 9-2

2.2 Sort Mode 9-2

2.3 Stack Mode 9-2

2.4 Example of Sort Mode Operation 9-3

3. BIN DRIVE MECHANISM 9-6

4. BIN HOME POSITION 9-7

5. BINS 9-8

6. ELECTRICAL CONTROL 9-9

7. INSTALLATION 9-10

7.1 Accessory Check 9-10

7.2 Installation Procedure 9-11

8. REPLACEMENT AND ADJUSTMENT 9-15

8.1 Bin Drive Belt Replacement 9-15

8.2 Bin Drive Motor Replacement 9-17

8.3 Bin Replacement 9-18

8.4 Exit Roller Drive Motor Replacement 9-19

8.5 Lower Exit Roller Unit and Exit Sensor Replacement 9-20

1. SPECIFICATIONS

Paper Size for Bins:	Maximum A3, 11" x 17" Minimum A5, 5½" x 8½"
Paper Weight:	50 to 110 grams per square meter (14 to 28 lb)
Number of Bins:	20 bins + proof tray
Bin Capacity:	Sort Mode: 50 sheets/A4 (8½" x 11") 35 sheets/A3 (11" x 17") Stack Mode: 35 sheets/A4 (8½" x 11") 20 sheets/A3 (11" x 17")
Proof Tray Capacity:	150 sheets (all sizes)
Power Source:	100 volts, 50/60 Hz, 0.8 A (from copier)
Power Consumption:	80 W
Dimensions: (W x D x H)	450 x 508 x 503 (millimeters) 17.7 x 20 x 19.8 (inches)
Weight:	21 kg (46.3 lb)

2. BASIC OPERATION

2.1 CLEAR MODE

When the main switch of the copier is turned on, the sorter automatically assumes the clear mode. It also changes to the clear mode if the sort or stack mode is recalled or if the interrupt key is pressed. In the clear mode, all copies are stacked on the proof tray.

Sorter operation starts when a sheet of copy paper actuates the copier exit sensor. Simultaneously, the roller drive motor and relay drive motor energize. The motors de-energize when the paper exits the copier and the paper sensor is deactuated. The paper sensor signal goes through the interface board to the copier. The wheel drive motor does not turn on when in the clear mode.

2.2 SORT MODE

After the sort mode is selected by pressing the Sorter key, the wheel drive motor turns on to move the proof tray up. When the first sheet of paper activates the paper exit sensor, the roller drive motor turns on. Shortly after the paper sensor turns off, the wheel drive motor turns and advances the bins one step. When the wheel sensor activates, the wheel drive motor turns off.

2.3 STACK MODE

As in the sort mode, the roller drive motor turns on when the first sheet of paper actuates the copier exit sensor. All copies of the copy run are then fed to the first bin. When the final copy passes the paper sensor, the wheel drive motor turns on and advances the bins one step.

There are no limitations on the number of copies that can be entered up to the full 999 copy limit of the copier. However, the physical capacity of the bins is a good deal less. (See “Bin Capacity” in the specifications.)

When all the bins have been used, the wheel drive motor turns on and lowers all the bins (including the proof tray). Simultaneously, the Max indicator blinks.

2.4 EXAMPLE OF SORT MODE OPERATION

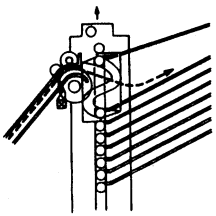
"3" copies entered and the Start key pressed 3 times.

In the illustrations the following call-outs are used:

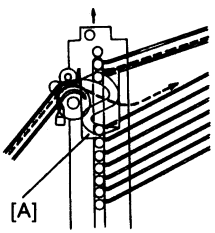
A: Helical Wheel
B: Transfer Wheel
C: Exit Sensor
D: Paper
E: Bin

- Start Key ON -

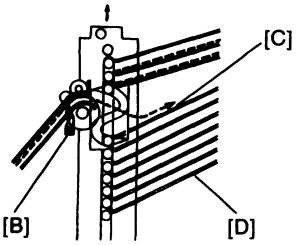
1) The first copy feeds to the first bin. After the paper detector turns off, the bin motor turns on and moves the first bin up.



2) The same action as #1.

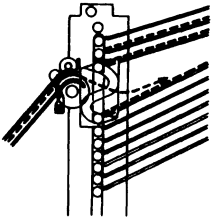


3) The third copy feeds to the third bin. The bin drive motor does not turn on after the paper sensor turns off. (The sorter will stay at this position until auto-reset or until copying resumes.)

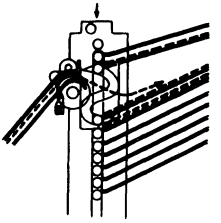


- Start Key ON -

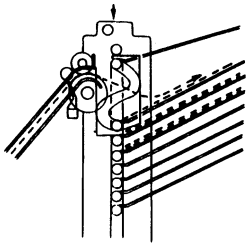
4) The first copy goes to the third bin. After the paper detector turns off, the bin drive motor turns on and moves the second bin down.



5) The same as #4.

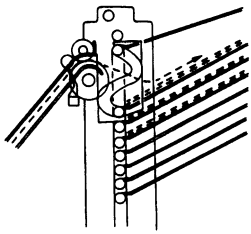


6) The third copy goes to the first bin. The bin motor does not turn on after the paper sensor turns off.

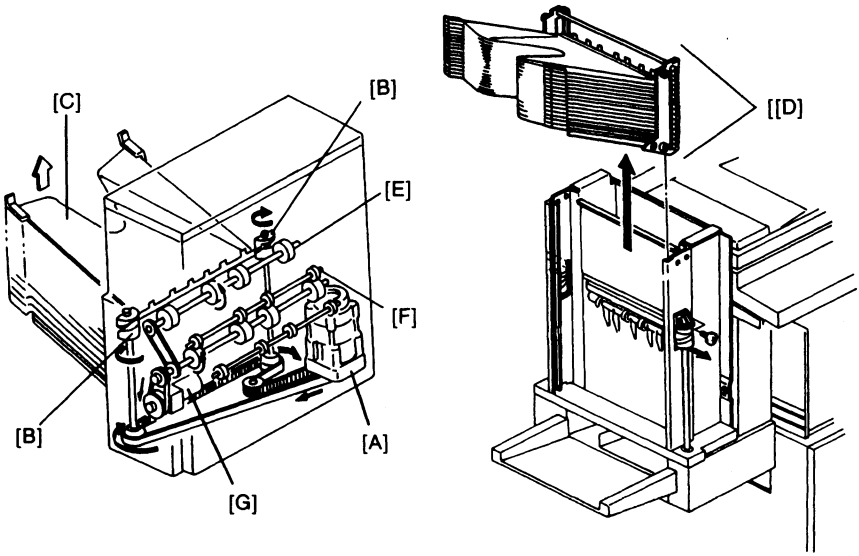


- Start Key ON -

7) The first sequence (1, 2, and 3) starts again.



3. BIN DRIVE MECHANISM

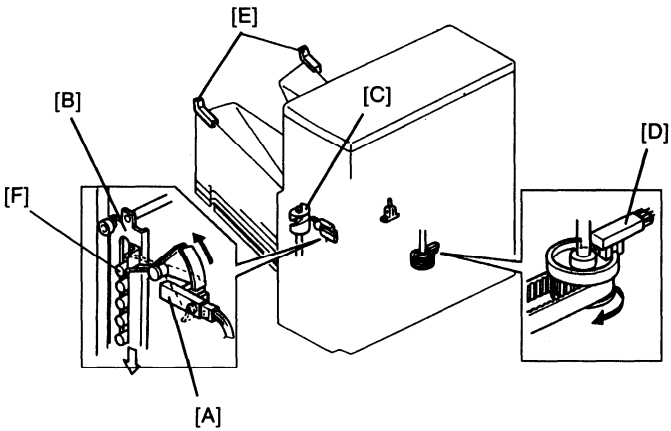


The bin drive mechanism moves the bins up and down to receive copies under the direction of the copier CPU. The main components in this mechanism are the bin drive motor [A], the helical wheels [B], the bin sensor, and the bins [C] themselves. Pins on either side of each bin fit into the slots of the bin holder [D]. The pins slide up and down in these slots.

A timing belt turns both helical wheels. The rear pulley has a slot which detects when the helical wheel has rotated 360 degrees. The helical wheels lift and lower the bins. They also lift the bin holder itself by lifting up the bottom bin.

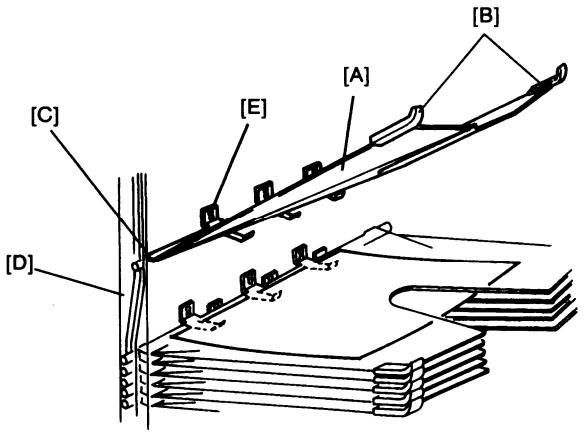
The roller drive motor [E] drives the exit rollers [F] and the transport rollers [G]. When the copy activates the copier's exit sensor, the CPU sends a signal to the sorter to turn on the roller drive motor. It turns off shortly after the sorter's paper exit sensor is deactivated.

4. BIN HOME POSITION



The bin home position sensor [A] is located on the sorter frame towards the front. It is deactuated by the bin holder [B] when all bins are lowered. The CPU detects the home position by monitoring this sensor when sort mode or stack mode is released. Every time the helical wheel [C] turns 360 degrees, the actuator of the bin sensor [D] also turns 360 degrees. This provides the CPU with off timing for the bin drive motor.

5. BINS

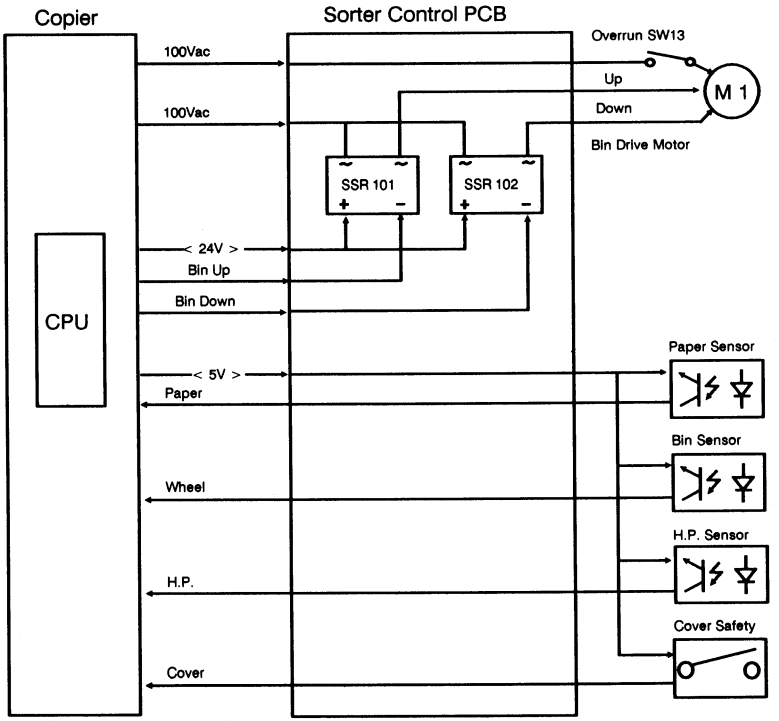


(Rear View)

The proof tray [A] and the twenty bins are all basically the same. Formed out of thin flexible steel plate, they have spacers [B] on the left end to hold them apart, and pins [C] at the front and rear of the right end, which are inserted in guide slots in the bin holder [D]. (The bin holder is mounted in the sorter frame.)

On the right edge, the bins have stoppers [E] which prevent copies from sliding back into the sorter after they have been fed out. The pattern of these stoppers is different for even and odd numbered bins.

6. ELECTRICAL CONTROL



The copier CPU controls all functions of the sorter.

The copier supplies 100 volts ac to the bin drive motor and SSRs. SSR 101 turns on the wheel drive motor to move the bins up. SSR 102 turns the bin drive motor in the opposite direction for the down operation.

Two dc power levels, +5 volts and +24 volts, are supplied from the copier and are used for the dc components.

Signals from the sensors and safety switch go to the copier CPU. The copier CPU operates motors and the SSRs.

The midi sorter has an overrun switch which stops the bin drive motor if the bins move too low.

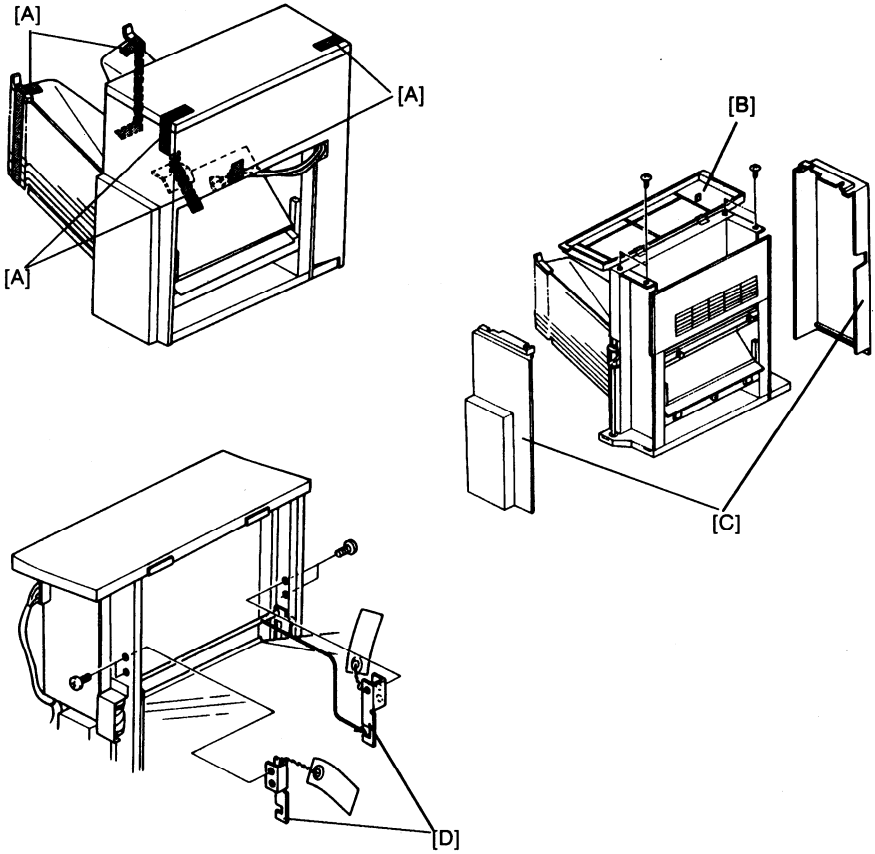
7. INSTALLATION

7.1 Accessory Check

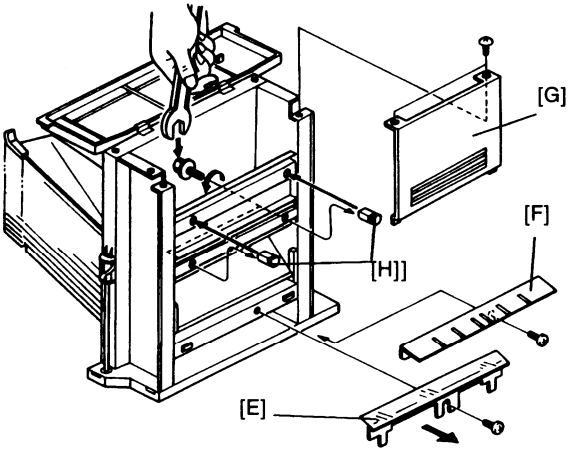
Check the quantity and condition of the accessories in the box according to the following list:

1. Relay Guide	1
2. Knob Screw	1
3. Spacer	1
4. Stud	2
5. Grounding Screw	1
6. Toothed Washer (220/240V only)	1
7. Multiple Language Decal (220/240V only)	1
8. NECR	1
9. Envelope - NECR (115V only)	1

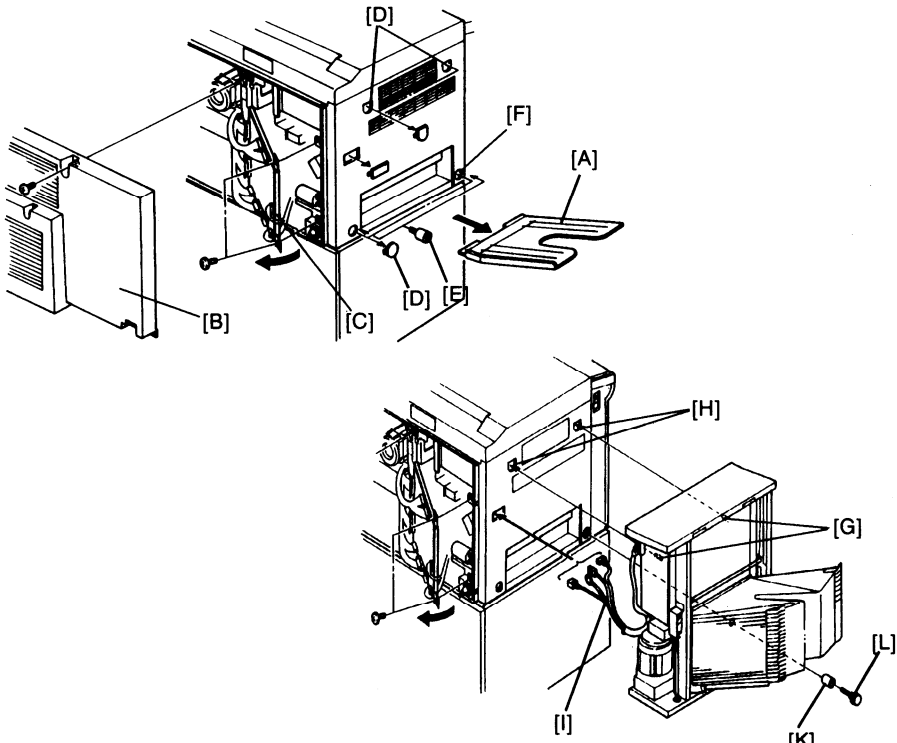
7.2 Installation Procedure



1. Remove the strips of tape [A].
2. Open the sorter top cover [B], and remove the side covers [C] (2 screws each). Remove the shipping retainers [D] (2 screws each).



3. Exchange the relay guide [E] (1 screw) with the relay guide [F] from the accessories.
4. Remove the sorter cover [G] and discard. Use a spanner to move the studs [H] to the upper position.
5. Turn off the main switch and unplug the copier power supply cord.



6. Remove the receiving tray [A] and the rear cover [B] of the copier (2 screws). Swing out the main board [C] (2 screws).

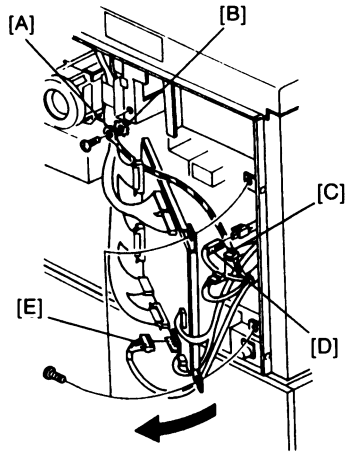
CAUTION: Be careful not to damage the fiber optics cable.

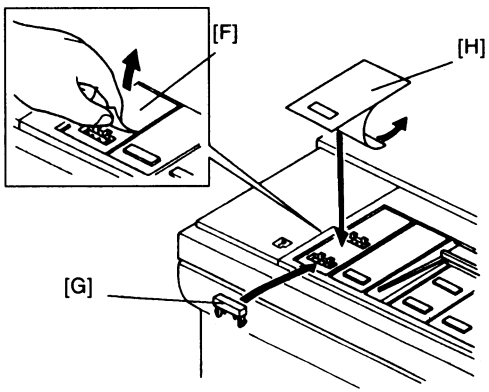
7. Remove the five plastic caps [D] from the left cover.

8. Install the two studs [E] in the lower holes [F].

9. Mount the sorter on the copier. (Insert the two mounting studs [G] into the docking holes [H], and pass the harness [I] through the access hole [J].)

10. Fix the sorter to the copier with the spacer [K] and the knob screw [L] (front side only).

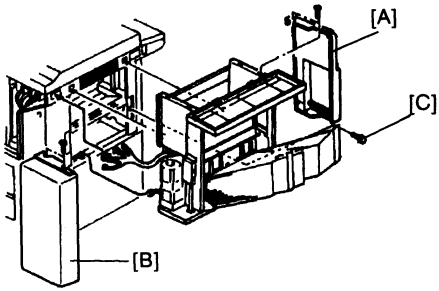


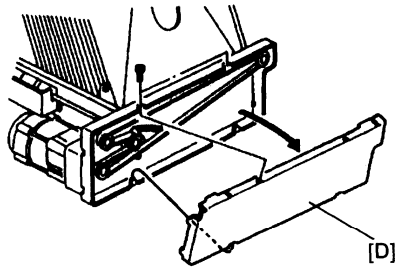


11. Secure the sorter ground wire [A] (1 screw). (A toothed washer [B] must also be installed with the European version).
12. Connect the three connectors as follows:
    Red 2P [C] to Red 2P free
    White 4P [D] to white 4P free
    White 12P [E] to CN108 on the main PCB
13. Reinstall the main PCB (2 screws).
14. Install the sorter covers and copier rear cover.
15. Peel off the cover [F] from the Sort/Stack key panel (left side of the operation panel).
16. Install the Sort/Stack key top [G] (copier accessory), and affix the Sort/Stack key cover [H] (copier accessory) as shown.
17. Set SP71-1 to enable the sorter. (Refer to the copier installation procedure.)
18. Check the sorter's operation and fill out the New Equipment Condition Report.

8. REPLACEMENT AND ADJUSTMENT

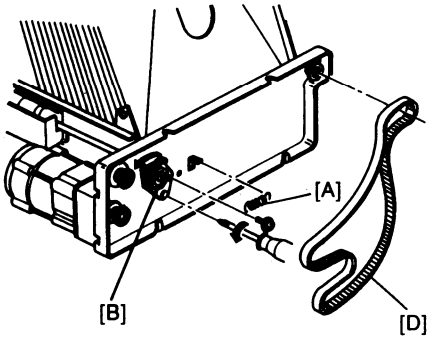
8.1 Bin Drive Belt Replacement

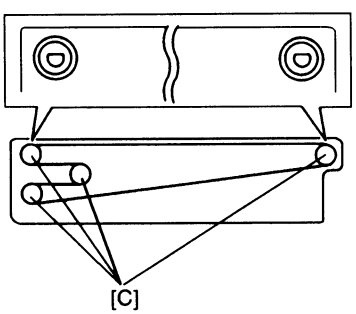




When the duplex unit is not installed, it is not necessary to perform steps 2 to 4. Note the orientation of the flat surface on each pulley shaft before removing the drive belt.

1. Remove the sorter front [A] and rear [B] covers (2 screws each).
2. Remove the rear cover of the copier (3 screws). Then, disconnect the sorter harness (red 2p connector, white 11p connector, and white 4p connector) and the sorter ground wire.
3. Remove the knob screw [C] from the duplex unit.
4. Remove the sorter unit from the machine.
5. Remove the lower cover [D] from the sorter (2 screws).



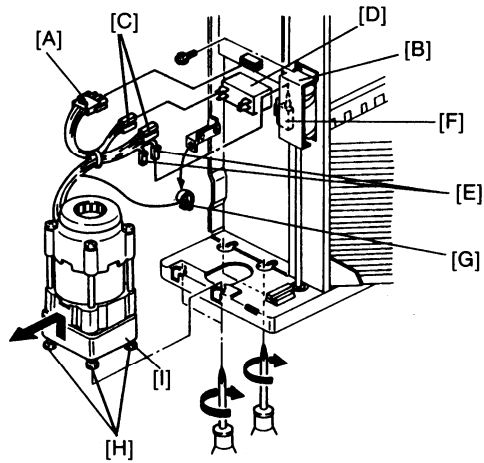


6. Remove the tension spring [A].

7. Remove the screws from the tension plate [B].
   - When installing a new drive belt, rotate the drive shaft bin pulleys [C] so that the flat surface on each pulley shaft is oriented in the same direction as prior to belt removal.

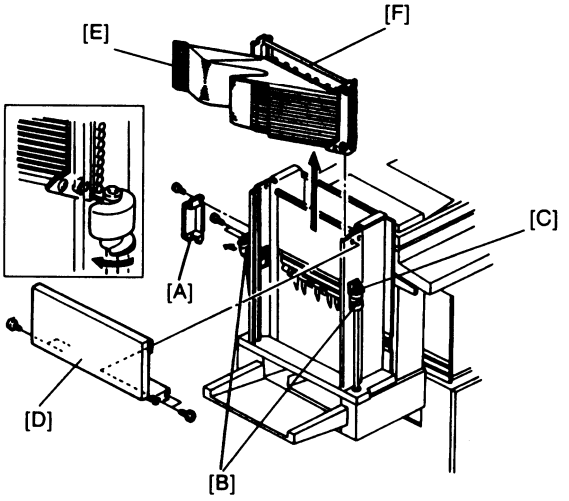
8. Replace the bin drive belt [D].

8.2 Bin Drive Motor Replacement



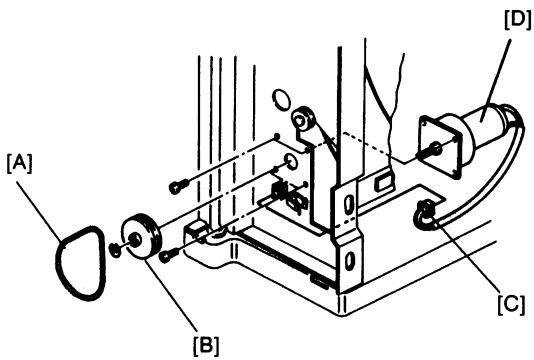
1. Remove the drive belt. (See the preceding procedure.)
2. Disconnect the 3p connector [A] from the sorter control board.
3. Remove the helical wheel cover [B] (1 screw).
4. Disconnect the 2p connectors [C] from the motor capacitor [D] and the connectors [E] from the overrun switch [F].
5. Remove the cable tie [G].
6. Loosen the 4 mounting screws [H] of the bin drive motor [I].
7. Remove the bin drive motor.

8.3 Bin Replacement



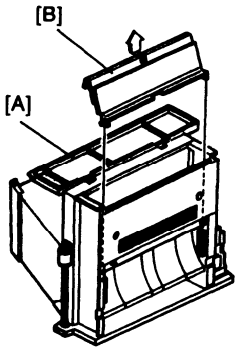
1. Remove the front and the rear covers (2 screws each).
2. Remove the helical wheel cover [A] (1 screw).
3. Slightly move both helical wheels [B] away from the sorter after removing the 2 helical wheel bracket [C] fixing screws.
4. Remove the upper cover [D] (2 screws each side).
5. Lift up the bin unit [E].
6. Remove one of the screws from the upper shaft [F].
7. Remove the bin unit at an angle.

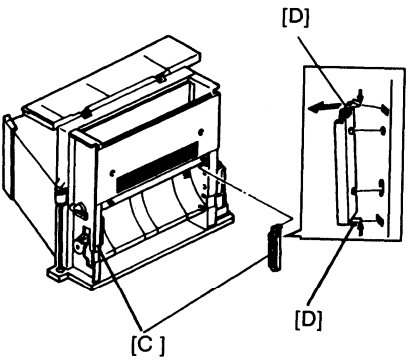
8.4 Exit Roller Drive Motor Replacement



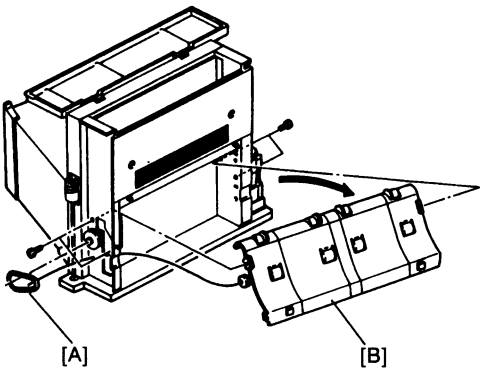
1. Remove the sorter unit from the copier. (Perform steps 2 to 4 of “Bin Drive Belt Replacement”.)
2. Remove the sorter front cover (2 screws).
3. Remove the roller drive belt [A].
4. Remove the pulley [B] from the exit roller motor (E-ring).
5. Disconnect the motor connector [C].
6. Remove the exit roller drive motor [D] (4 screws).

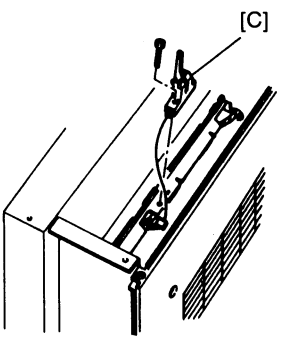
8.5 Lower Exit Roller Unit and Exit Sensor Replacement





1. Remove the sorter unit from the copier. (Perform steps 2 to 4 of “Bin Drive Belt Replacement”.)
2. Open the upper safety cover [A] of the sorter [A] and pull the upper exit roller unit [B] up out of the guide rails as shown.
3. Remove the rear [C] rail by releasing the hooks [D] on both sides as shown.





4. Remove the round belt [A].
5. Remove the lower exit roller unit [B] from the sorter (4 screws).
6. Remove the exit sensor [C] shown (1 screw).

SECTION 10

1K LCT

Contents

1K LCT

1. SPECIFICATIONS 10-1

2. MECHANICAL COMPONENT LAYOUT 10-2

3. DRIVE LAYOUT AND DRIVE MECHANISM 10-3

4. ELECTRICAL COMPONENT LAYOUT 10-4

5. FUNCTIONAL AND ELECTRICAL DESCRIPTION 10-5

5.1 TRAY OPERATION 10-5

5.2 PAPER SIZE CHANGE AND DETECTION 10-7

5.3 PAPER VOLUME DETECTION 10-8

5.4 COVER SAFETY SWITCH 10-9

6. INSTALLATION 10-10

6.1 Accessory Check 10-10

6.2 Installation Procedure 10-11

7. REPLACEMENT AND ADJUSTMENT 10-15

7.1 Tray Down Sensor and Positioning Switch Replacement 10-15

7.2 Paper Size Sensor Replacement 10-17

7.3 Tray Wire Replacement 10-18

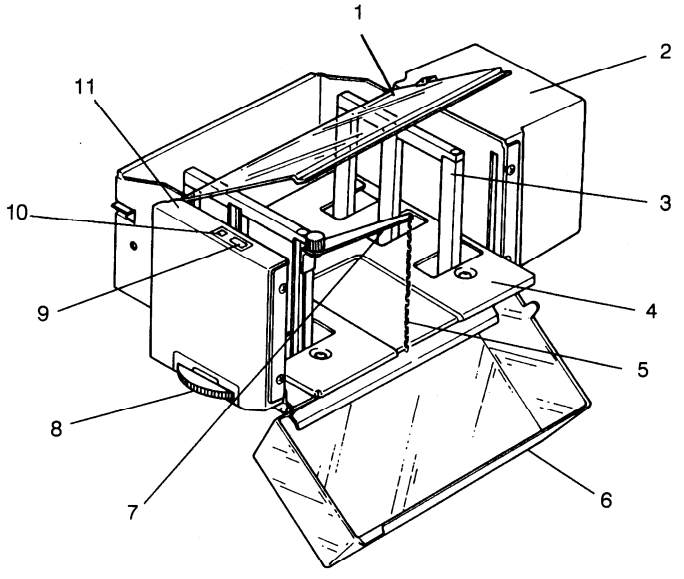
7.4 Paper Volume Cord Replacement 10-21

7.5 Side Registration Adjustment 10-23

1. SPECIFICATIONS

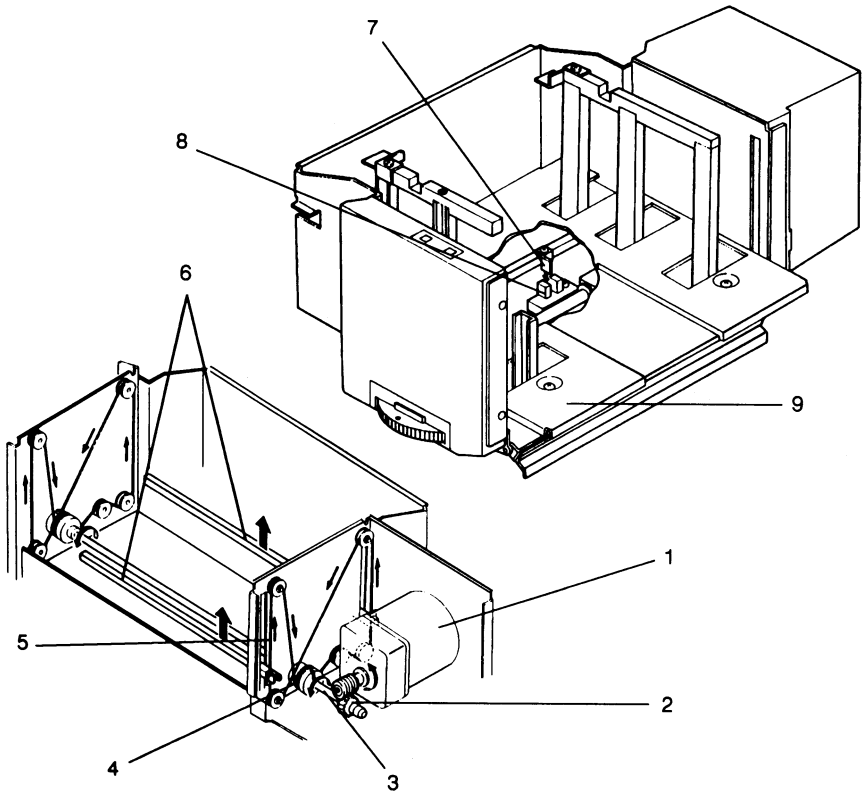
Copy Paper Size:	B4 (lengthwise, 257 mm x 364 mm) A4 (lengthwise or sideways, 210 mm x 297 mm) B5 (lengthwise or sideways, 182 mm x 210 mm) Legal (lengthwise, 8½" x 14") Letter (lengthwise or sideways, 8½" x 11")
Copy Paper Weight:	52 g to 105 g (14 lb to 28 lb)
Tray Capacity:	Approximately 1,000 sheets
Lift Time:	Maximum: 12 seconds (50 Hz) 10 seconds (60 Hz)
Power Source:	220 V, 50 Hz, 0.15 A 240 V, 50 Hz, 0.15 A 115 V, 60 Hz, 0.3 A
Power Consumption:	Maximum: 30 Watts
Dimensions (W x D x H):	284 mm x 545 mm x 227 mm
Weight:	12 kg

2. MECHANICAL COMPONENT LAYOUT



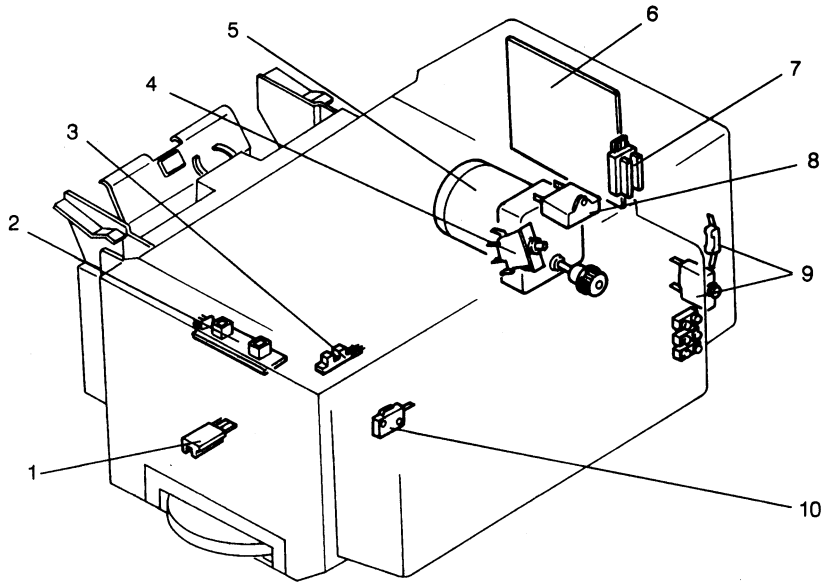
1. Top Cover
2. Rear Cover
3. Side Post
4. Tray Bottom Plate
5. Stopper Chain
6. Side Cover
7. Stopper Bar
8. Paper Size Dial
9. Close Cover Indicator
10. Down Key
11. Front Cover

3. DRIVE LAYOUT AND DRIVE MECHANISM



1. Tray Drive Motor (Reversible AC Motor)
2. Tray Drive Wheel
3. Tray Drive Shaft
4. Wire Drive Pulley
5. Tray Wire
6. Lift Rods
7. Actuator Plate
8. Tray Down Sensor
9. Tray Bottom Plate

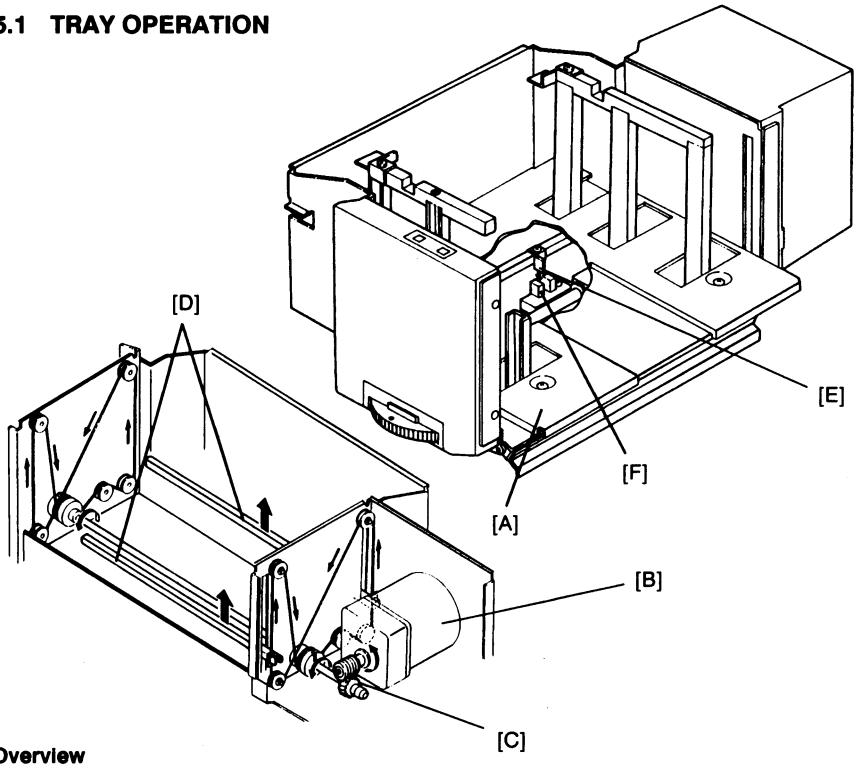
4. ELECTRICAL COMPONENT LAYOUT



1. LCT Paper Size Sensor
2. LCT Operator PCB
3. LCT HP Sensor
4. Cover Safety Switch
5. LCT Drive Motor
6. LCT Main PCB
7. LCT Paper Volume Sensor
8. Motor Capacitor
9. Circuit Breaker (115 V)
9. Fuse (220/240 V)
10. Positioning Switch

5. FUNCTIONAL AND ELECTRICAL DESCRIPTION

5.1 TRAY OPERATION

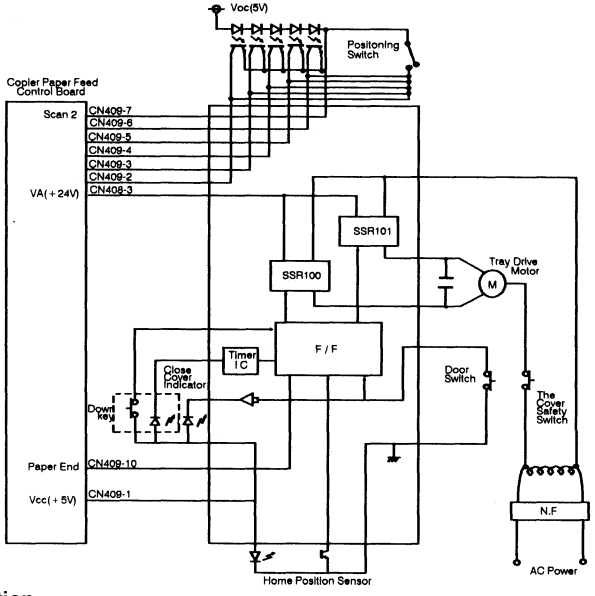


Overview

The bottom plate [A] of the large capacity tray is raised and lowered by a wire and pulley mechanism. This mechanism is driven by the tray motor [B] (reversible ac motor).

Drive power is transmitted directly to the tray drive shaft via a worm gear and worm wheel [C]. The tray wires have braces on them; these braces hold the ends of the two lift rods [D] which support the tray bottom plate. When the wire drive pulley turns clockwise, the braces on the wires raise the lift rods and the tray bottom plate. The bottom plate rises until the paper in the tray pushes up the pick-up roller, actuating the lower lift sensor.

The tray bottom plate lowers when the tray drive motor turns the wire drive pulley counterclockwise. It stops moving down when the actuator plate [E], on the left lift rod, actuates the tray down sensor [F].



Down Operation

The bottom plate moves down either when the Down key is pressed or when paper runs out. When either condition occurs, the flip-flop on the tray main board changes state (all outputs change from LOW to HIGH or vice versa). Then, two things happen simultaneously: (1) The timer circuit turns on, causing the LED in the Down key to blink; and (2) SSR100 turns on, energizing the drive motor to move the tray down.

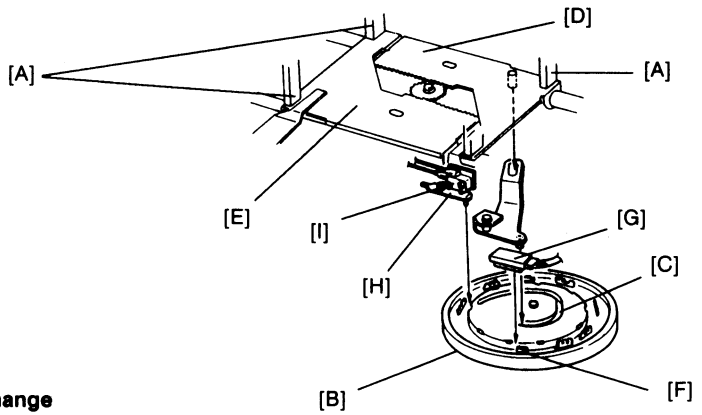
The tray down sensor is actuated when the bottom plate is fully lowered. This causes the flip-flop to change back to its original state, which turns off SSR1 00 and resets the timer circuit. The LED in the Down key stays on.

Up Operation

Up operation is started by opening and closing the cover while the bottom plate is in the down position. The cover safety switch changes the state of the flip-flop to energize SSR101, which turns on the drive motor to move the tray up. The drive motor stays on until the paper pushes up the pick-up roller. The actuator on the pick-up roller bracket then moves out of the upper limit sensor; this again changes the flip-flop's state and the motor stops.

NOTE: If JP-118 on the tray main board is removed, the bottom plate moves up by opening and closing the cover before the bottom plate actuates the tray down sensor.

5.2 PAPER SIZE CHANGE AND DETECTION



Paper Size Change

Three paper guide posts [A] at the front and rear sides of the large capacity tray align the paper in the tray. The two sets of guide posts are connected by a rack and pinion system which keeps the guide posts equidistant from the center of the tray.

The guide posts move as the paper size dial [B] turns. As the dial is rotated, the size lever tracks a cam groove [C] on the surface of the dial. Movement of the size lever is transferred to the front post rack of the rack and pinion system. Any movement of the front post rack [D] is transferred by the pinion to the rear post rack [E].

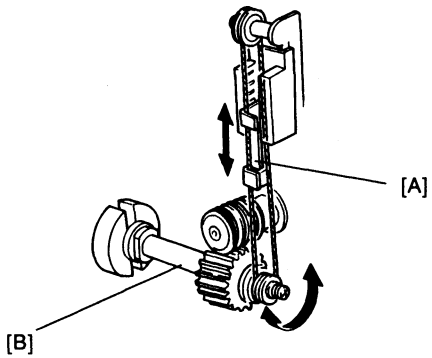
Paper Size Detection

The paper size detection system of the large capacity tray is similar to that of the cassette. Both systems use the same data bus, signals, and type of sensor. However, the mechanism of paper size detection in the large capacity tray is different.

When the paper size dial is rotated to a standard paper size, one of the actuator plates [F] enters the paper size sensor [G]. At the same time, the pin on the leaf spring [H] drops into a notch on the inside rim of the dial and the positioning switch [I] becomes de-actuated. This signal allows the copier CPU to monitor data from the paper size sensor. The paper size of the tray is then displayed on the indicator screen where the size of the lower cassette is usually displayed.

When the paper size dial is positioned at a non-standard paper size, the positioning switch is actuated. At this time, the Load Paper indicator lights and no paper size is displayed on the indicator screen.

5.3 PAPER VOLUME DETECTION

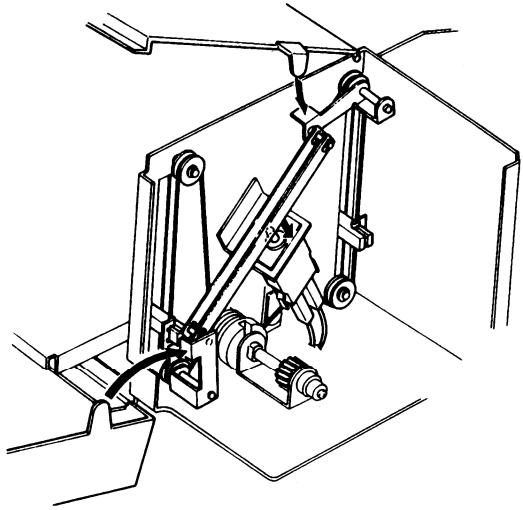


The paper volume detection system of the large capacity tray is similar to that of the cassettes. Both systems use the same data bus, signals, and sensor type. However, the mechanism of detection and meaning of the display are different.

Unlike cassette volume detection, the paper volume actuator plate [A] of the large capacity tray is not moved by the sector gear. Instead, the actuator plate is moved by the tray wire attached to the tray drive shaft [B].

When the large capacity tray is full (approximately 1,000 sheets), the first four indicators are lit. The indicators turn off one at a time, each after approximately 225 sheets of paper have been fed. The last indicator is the only one remaining lit when about 130 sheets remain in the tray. This indicator turns off after the last sheet has been fed.

5.4 COVER SAFETY SWITCH



The cover safety switch monitors whether or not the top and side covers are closed. If either cover is open, the safety switch is de-actuated.

Pins on the top and bottom actuator levers hold the safety switch actuator. The top actuator lever is pushed down by the top cover, while the bottom actuator lever is pushed in by the side cover. Therefore, the safety switch actuates only when both the top and side covers are closed.

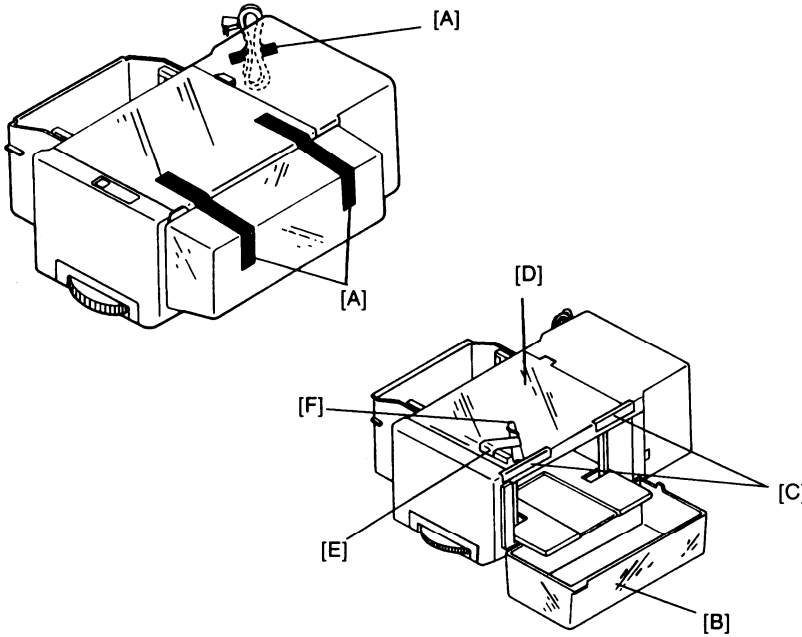
6. INSTALLATION

6.1 1. Accessory Check

Check the quantity and condition of the accessories in the box according to the following list:

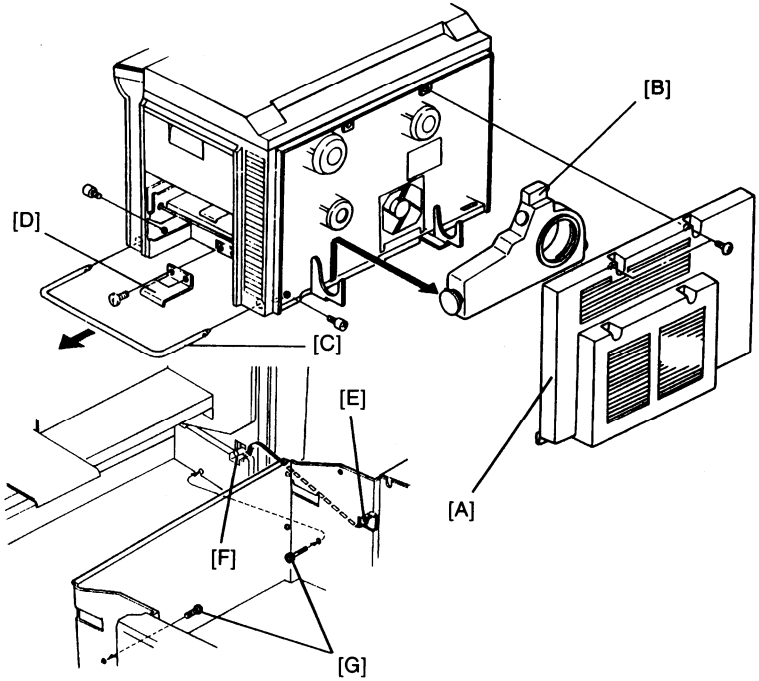
1. Bolt - M4 x 12	1
2. Bolt - M4 x 22	1
3. Nylon Clamp	1
4. Screw - M4 x 8	1
5. Multiple Language Decal (220/240V Only)	1
6. NECR	1
7. Envelope - NECR (115V Only	1

6.2 Installation Procedure



NOTE: The LCT can only be installed with the system table or the cassette bank.

1. Remove the three strips of tape [A].
2. Open the side cover [B] and remove two strips of tape [C] on the top cover.
3. Open the top cover [D] and remove the strip of tape [E] securing the stopper bar [F].
4. Turn off the main switch of the copier and unplug the power supply cord.
5. Remove the first and the second cassettes from the copier.



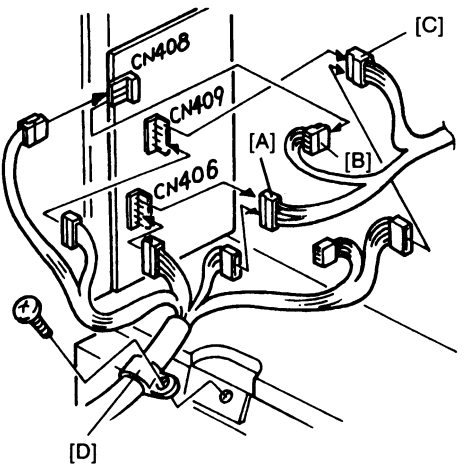
6. Remove the rear cover [A] (2 screws), and remove the toner collection bottle [B].
7. Remove the handle [C] on the bottom right side of the copier (2 stud screws), then remove the second cassette lift arm [D] (2 screws).

   NOTE: Save this handle for later use (when transporting the copier).

8. Insert the tray into the second cassette position.

   NOTE: Make sure that the rib [E] fits into the groove [F].

9. Open the side and top covers and secure the tray with two bolts [G]. Use the longer bolt for the rear side and the shorter bolt for the front side.



10. Disconnect CN406 [A], CN408 [B], and CN409 [C] on the feed control board.

11. Connect the six tray harness connectors to the three free harness connectors and to the three connectors on the feed control board as follows:

TRAY	**CONTROL BOARD**
Female 4P	CN408
Female 10P	CN406
Female 12P	CN409

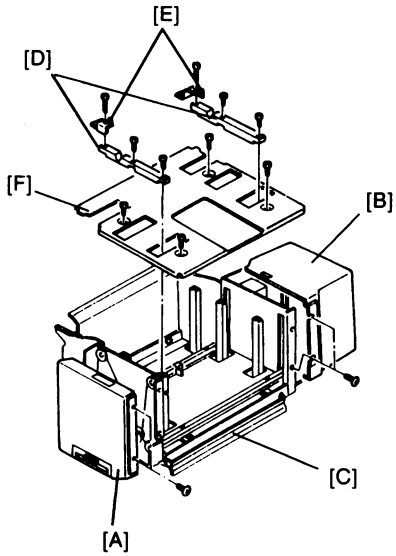
TRAY	**FREE**
Male 4P	4P
Male 10P	10P
Male 12P	12P

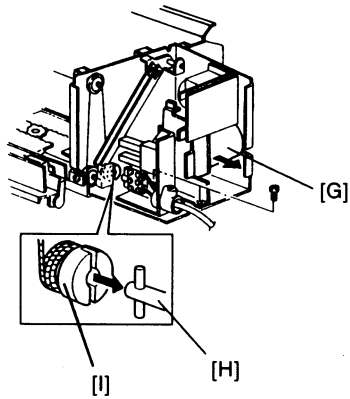
12. Secure the harness to the copier table with the nylon clamp [D] (1 screw).

13. Reinstall the toner collection bottle and the rear cover.
14. Plug in the power supply cords for both the large capacity tray andthe copier.
15. Load paper into the tray.
16. Turn on the main switch of the copier, and check the tray operation.
17. Fill out the New Equipment Condition Report.

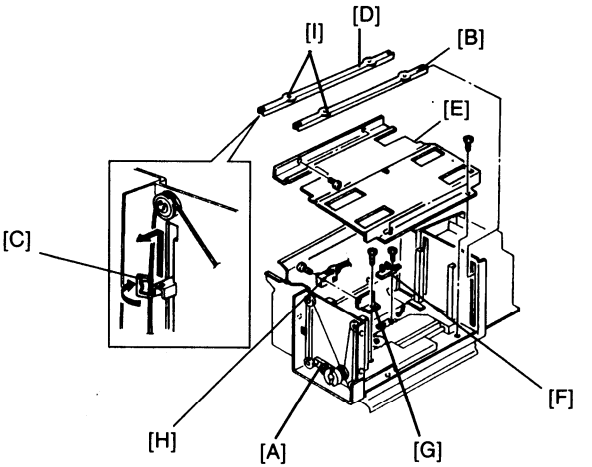
7. REPLACEMENT AND ADJUSTMENT

7.1 Tray Down Sensor and Positioning Switch Replacement





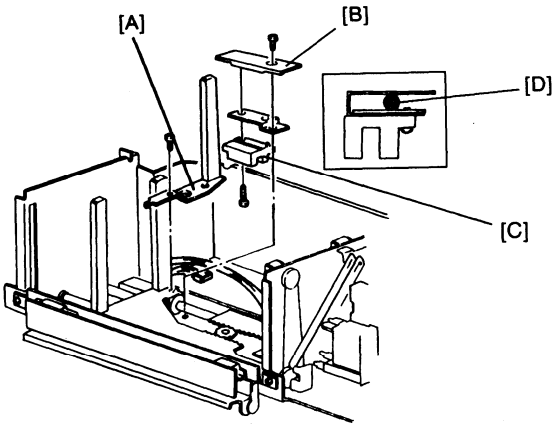
1. Open the side cover and remove the front cover [A] (2 screws and 1 connector) and the rear cover [B] (4 screws).
2. Remove the top cover.
3. Remove the stopper bar assembly [C] (2 screws).
4. Remove the two (2) post tops [D] and the two paper guides [E] (1 long and 2 short screws each).
5. Remove the tray bottom plate [F] (4 screws).
6. Move the tray drive motor ass'y [G] (2 screws) to the rear to disengage the tray drive shaft [H] from the wire drive pulley [I].



7. Loosen the front wire tightener [A] (1 screw).
8. Remove the right lift rod [B] from the braces [C] (front side first).
9. Disengage the front end of the left lift rod [D] by raising it partway; then, lift it out from the top.
10. Remove the inner cover [E] (2 short and 2 long screws).
11. Replace the tray down sensor [F] (1 screw and 1 connector).
12. Rotate the paper size dial to select a smaller paper size such as A4R, and remove the positioning switch bracket [G] (1 screw).
13. Replace the positioning switch [H] (2 screws).

NOTE: When reassembling, make sure that the ends with the holes [I] are at front.

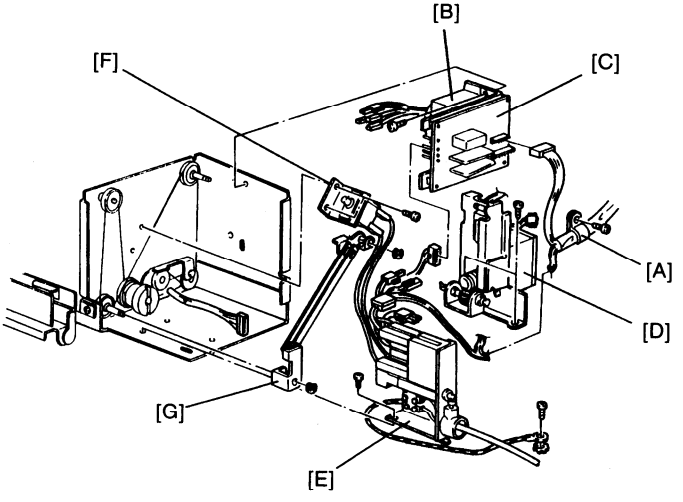
7.2 Paper Size Sensor Replacement



1. Do steps 1 to 11 of tray down sensor and positioning switch replacement.
2. Remove the front guide post [A] (1 screw).
3. Remove the paper size sensor bracket [B].
4. Replace the paper size sensor [C] (1 screw).

NOTE: When reinstalling the sensor bracket, make sure that the harness [D] is positioned inside the sensor bracket.

7.3 Tray Wire Replacement



Unplug the tray power supply cord.

- Front Wire -

Remove the following parts:

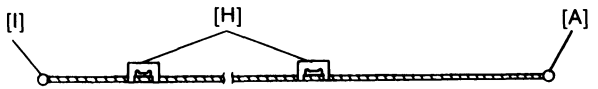
- Front cover (2 screws and 1 connector)
- Nylon clamp [A] holding the operation board harness (1 screw)

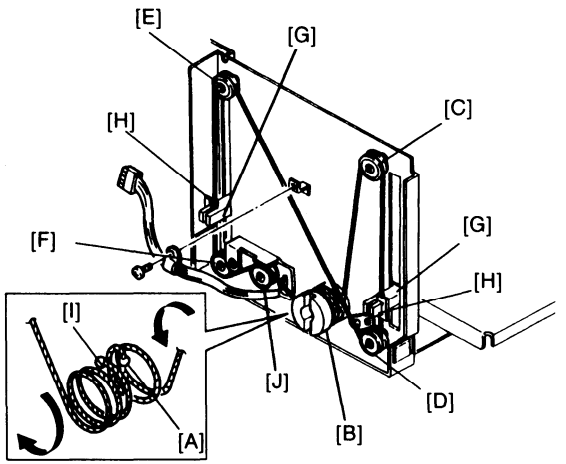
- Rear Wire -

Remove the following parts:

- Rear cover (4 screws)
- Transformer assembly [B] with tray main board [C] (1 screw, 5 connectors, and 1 nylon clamp)
- Drive motor assembly [D] (2 screws and 2 connectors)
- Ac power terminal [E] (2 screws) and safety switch assembly [F] (2 short screws)
- Safety switch actuator assembly [G] (2 E-rings)

- Common Procedure for Front and Rear Wire -



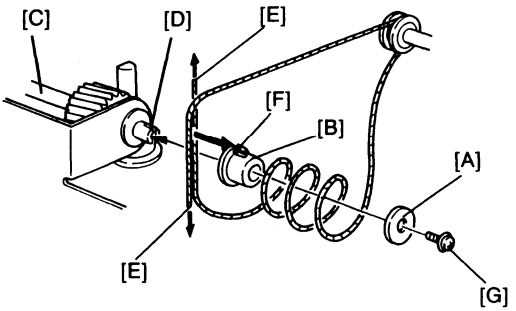


The front and rear wires run in opposite directions.

1. Loosen the wire tightener (1 screw).
2. Insert the bead [A] (unmarked) into the slot on the drive pulley [B].
3. Loop the wire one-and-a-half turns around the drive pulley as shown.
4. Run the wire over WP1 [C], WP2 [D], WP3 [E], and WP4 [F] in turn while also placing the lift rod's ends [G] in the braces [H].
5. Insert the bead (red) [I] into the slot on the drive pulley.
6. Loop the wire two-and-a-half turns around the drive pulley as shown.
7. Hang the wire on the tension pulley [J].

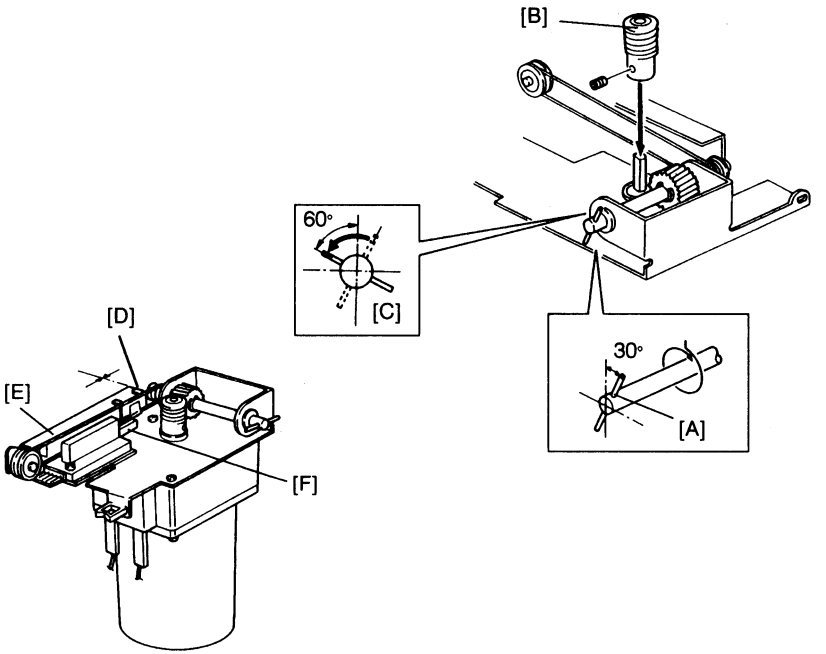
8. Move the rods up and down manually to ensure that the drive wire does not overlap on the pulley.
9. Tighten the wire via the tension (1 screw).
10. Reassemble.

7.4 Paper Volume Cord Replacement



1. Unplug the tray and remove the rear cover (4 screws).
2. Remove the transformer assembly with the tray main board (1 screw, 5 connectors, and 1 nylon clamp).
3. Remove the drive motor assembly with the paper volume detection assembly (2 screws and 2 connectors).
4. Remove the drive motor worm gear (1 Allen screw).
5. Remove the washer [A] and the paper volume cord pulley [B] (1 screw).
6. Rotate the drive shaft [C] so that the slot [D] is vertical, then secure the shaft with tape.
7. Insert both ends of the paper volume cord [E] into the slot [F] of the paper volume cord pulley and run the cord as shown in the figure.
8. Insert the paper volume cord pulley and washer. Partially tighten the screw [G].

NOTE: Align the slot of the paper volume string pulley with the slot of the drive shaft.



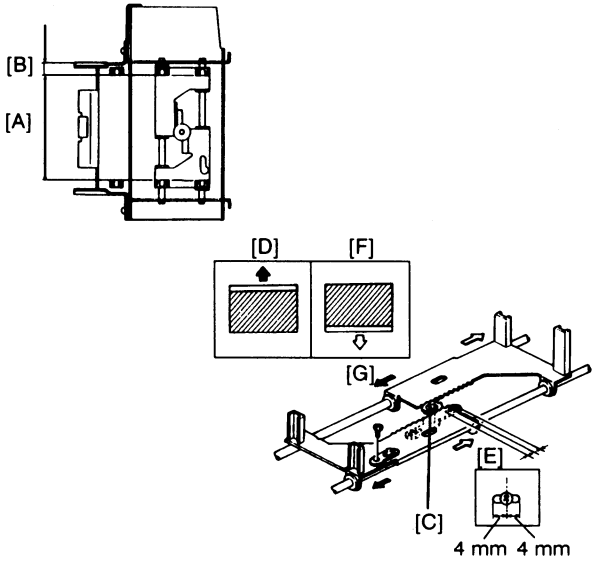
9. Pull the ends of the cord to stretch it before tightening the screw and cutting off the excess cord.

10. Remove the tape on the drive shaft and turn the drive pin [A] 330° in the direction shown in the figure.

11. Set the drive motor worm gear [B] on the motor shaft and make sure the angle of the drive pin is as shown in the figure [C].

12. Align the edge [D] of the paper volume sensor actuator plate with the bracket [E] as shown and secure the actuator plate with tape [F].

7.5 Side Registration Adjustment

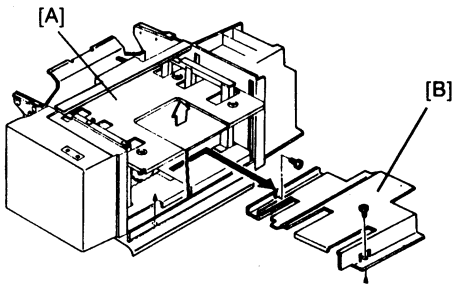


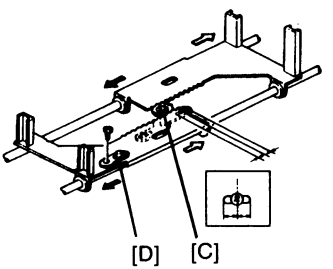
ADJUSTMENT STANDARD: A = 297 to 299.5 mm
B = 14.0 ± 1 mm

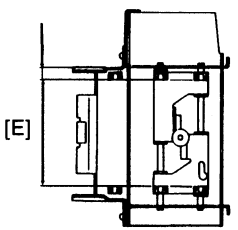
The pinion bracket [C] has 8 mm of play for side registration adjustment.

If the image is shifted to the front [D], move the pinion bracket in the direction of arrow [E]: if the image is shifted to the rear [F], move the pinion in the direction of arrow [G].

1. Rotate the paper size dial to A4. Do not move the paper size dial again while performing this adjustment.
2. Raise the tray bottom plate [A].
3. Turn off the main switch.
4. Remove the front inner cover [B] (2 screws).







5. Loosen the 2 screws securing the pinion bracket [C].
6. Loosen the screw securing the guide post lock plate [D].
7. Move the pinion bracket while holding the pinion so that the pinion does not turn. (The front and rear guide posts must be equidistant from the center.)
8. Tighten the screws securing the pinion bracket.
9. Tighten the screws securing the guide post lock plates.
10. Confirm that the length between the guide posts [E] is within the standard value range (297 to 299.5).
11. Confirm that the side registration is adjusted correctly and reassemble.

SECTION 11

2.5K LCT

Contents

2.5K LCT

1. SPECIFICATIONS 11-1

2. ELECTRICAL COMPONENT LAYOUT 11-2

3. FUNCTIONAL AND ELECTRICAL OPERATION 11-3

3.1 TRAY OPERATION 11-3

4. INSTALLATION 11-5

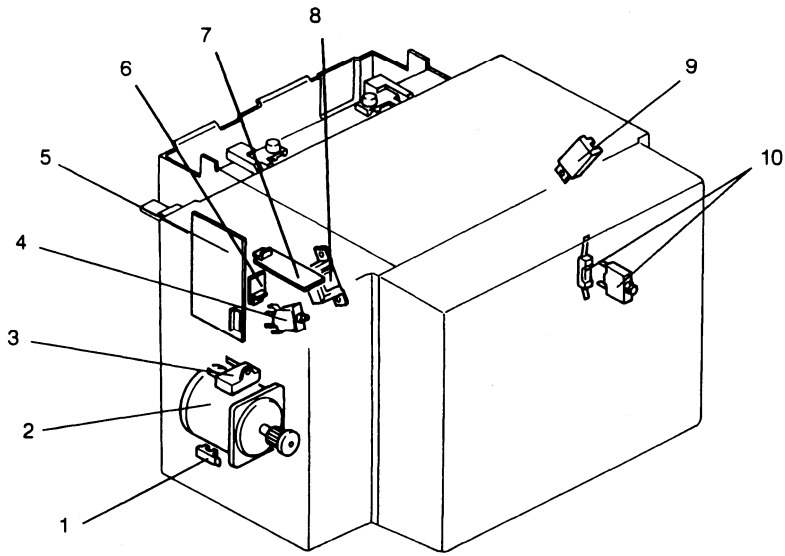
4.1 Accessory Check 11-5

4.2 Installation Procedure 11-6

1. SPECIFICATIONS

Copy Paper Size:	B4 (lengthwise, 257 mm x 364 mm) A4 (lengthwise or sideways, 210 mm x 297 mm) B5 (lengthwise or sideways, 182 mm x 210 mm) Legal (lengthwise, 8½" x 14") Letter (lengthwise or sideways, 8½" x 11")
Copy Paper Weight:	45 g to 105 g (14 lb to 28 lb)
Tray Capacity:	Approximately 2500 sheets
Lift Time:	Maximum: 33 seconds (50 Hz) 28 seconds (60 Hz)
Power Source:	220 V, 50 Hz, 0.3 A 240 V, 50 Hz, 0.3 A 115 V, 60 Hz, 0.6 A
Power Consumption:	Maximum: 60 Watts
Dimensions (W x D x H):	284 mm x 535 mm x 385 mm
Weight:	115 V –> 15 kg 220,240 V –> 17 kg

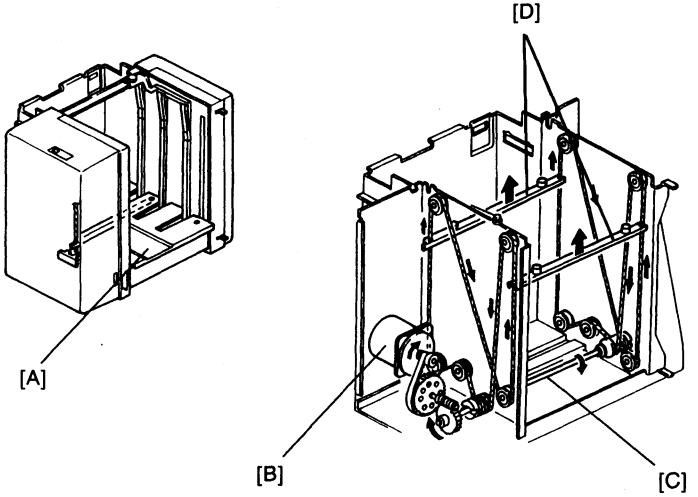
2. ELECTRICAL COMPONENT LAYOUT



1. LCT HP Sensor
2. LCT Drive Motor
3. Motor Capacitor
4. Cover Safety Switch
5. LCT Main PCB
6. LCT Paper Size PCB
7. LCT Operator PCB
8. Transformer (220/240 V)
9. LCT Paper Volume Sensor
10. Circuit Breaker (115 V)
10. Fuse (220/240 V)

3. FUNCTIONAL AND ELECTRICAL OPERATION

3.1 TRAY OPERATION

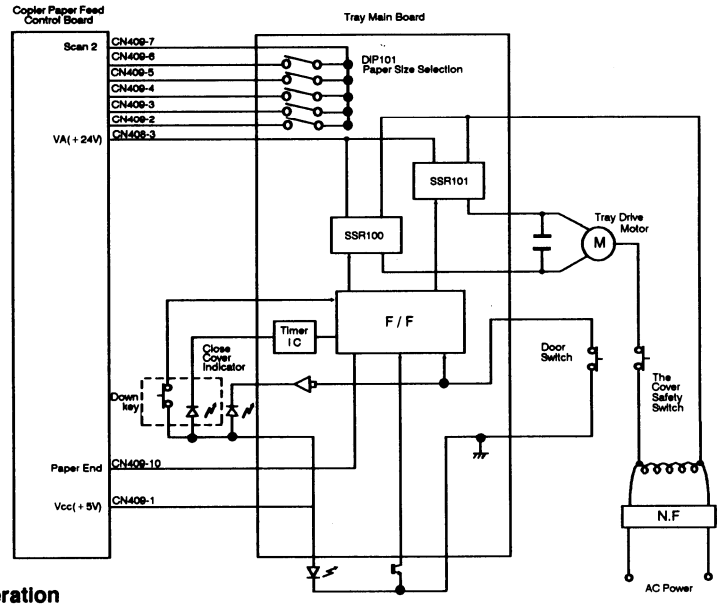


Overview

The bottom plate [A] of the large capacity tray is raised and lowered by a wire and pulley mechanism. This mechanism is driven by the tray motor [B] (reversible ac motor).

Drive power is transmitted directly to the tray drive shaft [C] via a worm gear and worm wheel. The tray wires have braces on them; these braces hold the ends of the two lift rods [D] which support the tray bottom plate. When the wire drive pulley turns clockwise, the braces on the wires raise the lift rods and the tray bottom plate. The bottom plate rises until the paper in the tray pushes up the pick-up roller, actuating the lower lift sensor.

The tray bottom plate lowers when the tray drive motor turns the wire drive pulley counterclockwise. It stops moving down when the actuator plate, on the left lift rod, actuates the tray down sensor.



Down Operation

The bottom plate moves down either when the Down key is pressed or when paper runs out. When either condition occurs, the flip-flop on the tray main board changes state (all outputs change from LOW to HIGH or vice versa). Then, two things happen simultaneously: (1) The timer circuit turns on, causing the LED in the Down key to blink; and (2) SSR100 turns on, energizing the drive motor to move the tray down.

The tray down sensor is actuated when the bottom plate is fully lowered. This causes the flip-flop to change back to its original state, which turns off SSR100 and resets the timer circuit. The LED in the Down key stays on.

Up Operation

Up operation is started by opening and closing the cover while the bottom plate is moving down or in the down position. The cover safety switch changes the state of the flip-flop to energize SSR101, which turns on the drive motor to move the tray up. The drive motor stays on until the paper pushes up the pick-up roller. The actuator on the pick-up roller bracket then moves out of the upper limit sensor; this again changes the flip-flop's state and the motor stops.

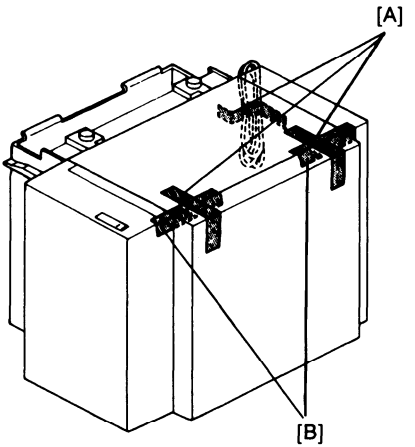
4. INSTALLATION

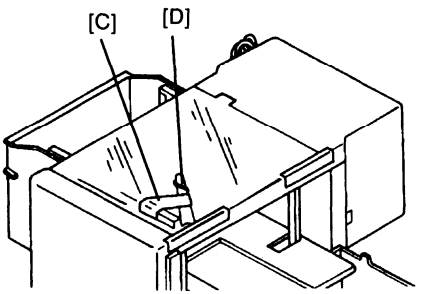
4.1 Accessory Check

Check the quantity and condition of the accessories in the box according to the following list:

1. Holder Plate	2
2. Nylon Clamp	1
3. Pan Head Screw - M4 x 8	3
4. Multiple Language Decal (220/240V Only)	1
5. Front Post (A4 version only)	1
6. Grip - Front (A4 version only)	1
7. Screw - M3 x 6 (A4 version only	3
8. Knob screw (A4 version only)	3
9. NECR	1
10. Envelope - NECR (115V Only)	1

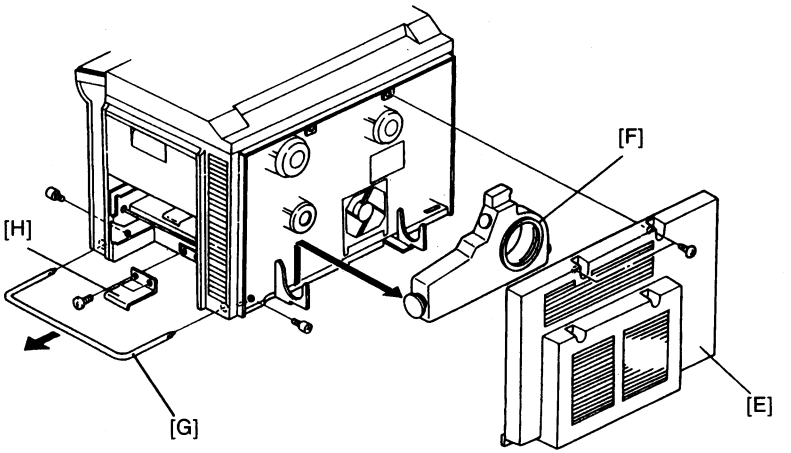
4.2 Installation Procedure





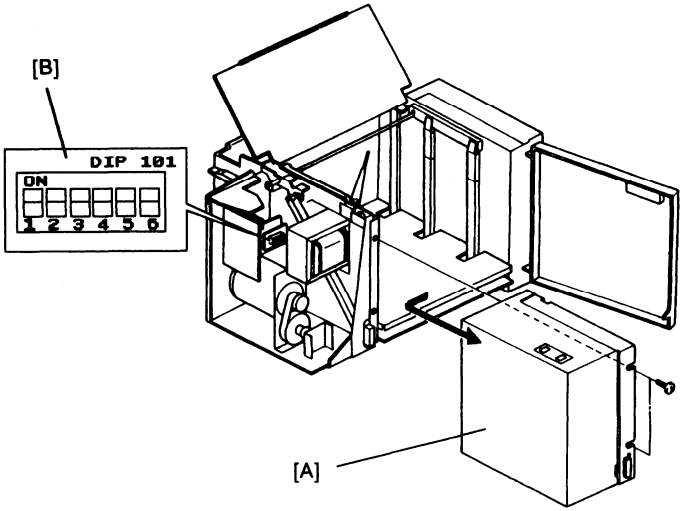
NOTE: The LCT can only be installed with the system table or the cassette bank.

1. Remove the three strips of tape [A].
2. Open the side cover and remove two strips of tape [B] on the top cover.
3. Open the top cover and remove the strip of tape [C] securing the stopper bar [D].
4. Turn off the main switch of the copier and unplug the power supply cord.
5. Remove the first and the second cassettes from the copier.



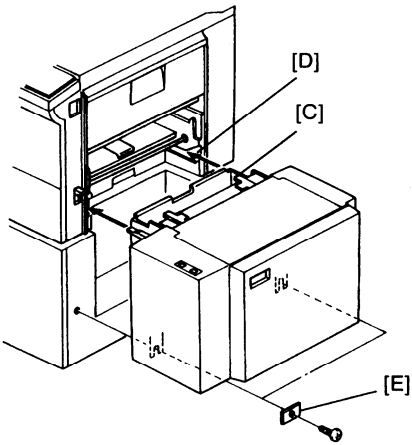
6. Remove the rear cover [E] (2 screws), and remove the toner collection bottle [F].
7. Remove the handle [G] on the bottom right side of the copier (2 stud screws) and remove the second cassette lift arm [H] (2 screws).

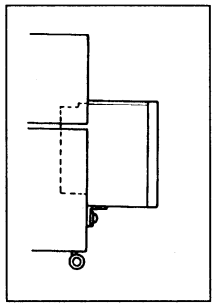
   NOTE: Save this handle for future use when transporting the copier.



8. If a customer requests a different paper size from that initially set, change the position of the side posts accordingly. (A4 sideways does not need the front side post). Then, remove the front cover [A], and set Dip switch 101 [B] according to the paper size. (Dip switch table decal is stack on the rear of the front cover.)

CAUTION: Do not change the harness that runs between the LCT main board and LCT indicator panel.

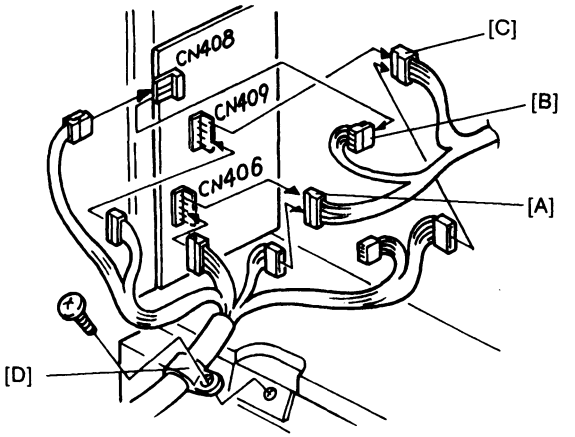




9. Insert the tray into the second cassette position.

NOTE: Make sure that the rib [C] fits into the groove [D].

10. Install the holder plates [E] (1 screw each).



11. Disconnect CN406 [A], CN408 [B], and CN409 [C] on the feed control board (right rear corner of the copier).

12. Connect the six tray harness connectors to the three free harness connectors and to the three connectors on the feed control board as follows:

TRAY	**CONTROL BOARD**
Female 4P	CN408
Female 10P	CN406
Female 12P	CN409

TRAY	**FREE**
Male 4P	4P
Male 10P	10P
Male 12P	12P

13. Using the nylon clamp [D] secure the harness to the bottom plate (1 screw).

14. Reinstall the toner collection bottle and the rear cover.
15. Plug in the power supply cords of both the large capacity tray and the copier.
16. Load paper into the tray.
17. Turn on the main switch of the copier, and check the tray operation.
18. Fill out the NECR.

SECTION 12

MENU READER

Contents

MENU READER

1. SPECIFICATIONS 12-1

2. OVERALL MACHINE CONTROL 12-2

3. DATA FORMAT 12-3

4. BASIC OPERATION 12-4

4.1 Job Sheet Reading 12-4

4.2 Menu Reader Indicator Lights 12-6

4.3 Processing Errors 12-7

5. INSTALLATION 12-8

5.1 ACCESSORY CHECK 12-8

5.2 INSTALLATION PROCEDURE 12-9

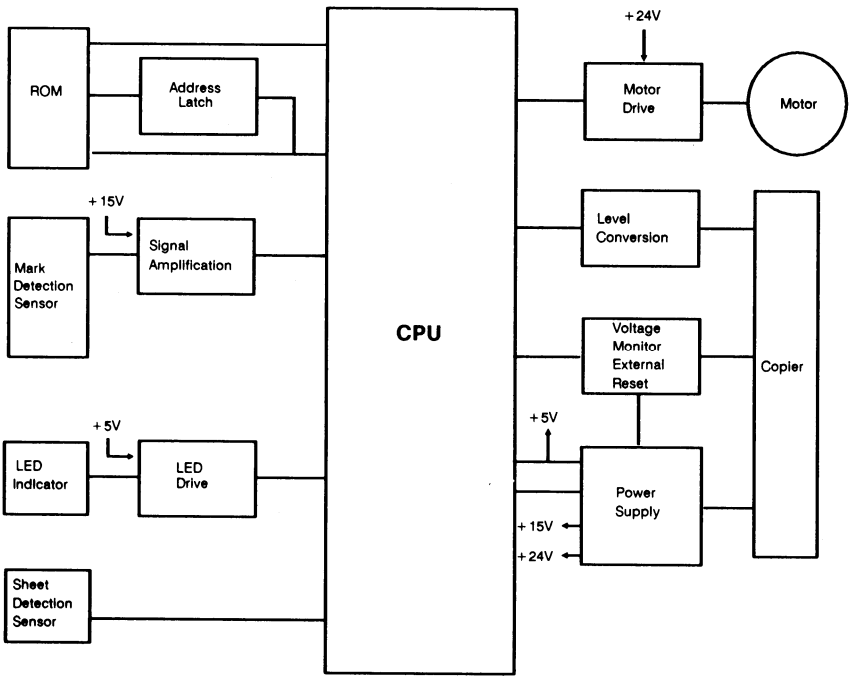
6. REPLACEMENT AND ADJUSTMENT 12-11

6.1 Lower Transport Roller Replacement 12-11

1. SPECIFICATIONS

- Item -	- Specification -
Job Sheet	
1. Material:	Paper
2. Size:	2.6" x 5.9" (67 mm x 150 mm)
3. Weight:	22 lbs to 43 lbs (83 g to 161 g)
4. Markers:	Black pencil, HB or higher (HB, B, 2B, etc.) Marker (Black) Ballpoint pen (Black)
Job Sheet Feed Method:	Fed in and out automatically
Reading Time:	Approximately 2.5 seconds
Power Source:	+24 volts and +5 volts (from copier)
Dimensions: (W x D x H)	4.4" x 6.5" x 1.8" (112 mm x 165 mm x 45 mm)
Weight:	170 lbs (640 g)

2. OVERALL MACHINE CONTROL



The menu reader is controlled by the copier.

3. DATA FORMAT

Menu Reader –> Copier

b7	b6	b5	b4	b 3	b 2	b 1	b0	DATA CONTENTS
B C D				0	0	0	0	Copy Quantity x 1
B C D				0	0	0	1	Copy Quantity x 10
B C D				0	0	1	0	Copy Quantity x 100
Size 4	Size 3	Size 2	Size 1	0	0	1	1	Paper Size
Enlarge 3	Enlarge 2	Enlarge 1	100%	0	1	0	0	Reproduction Ratio-1
Reduce 4	Reduce 3	Reduce 2	Reduce 1	0	1	0	1	Reproduction Ratio-2
0	2 : 1	2 : 2	1 : 2	0	1	1	0	Duplex
0	0	Stack	Sort	0	1	1	1	Sorter
0	0	0	Staple	1	0	0	0	Staple
0	0	0	Reserve-1	1	0	0	1	Reserve-1
0	Reserve2-2	Reserve2-2	Reserve2-1	1	0	1	0	Reserve-2
0	0	0	Reserve-3	1	0	1	1	Reserve-3
0	0	0	Reserve-4	1	1	0	0	Reserve-4
-----	------	------	------	1	1	0	1	
------	------	------	------	1	1	1	0	
				1	1	1	1	Control Data

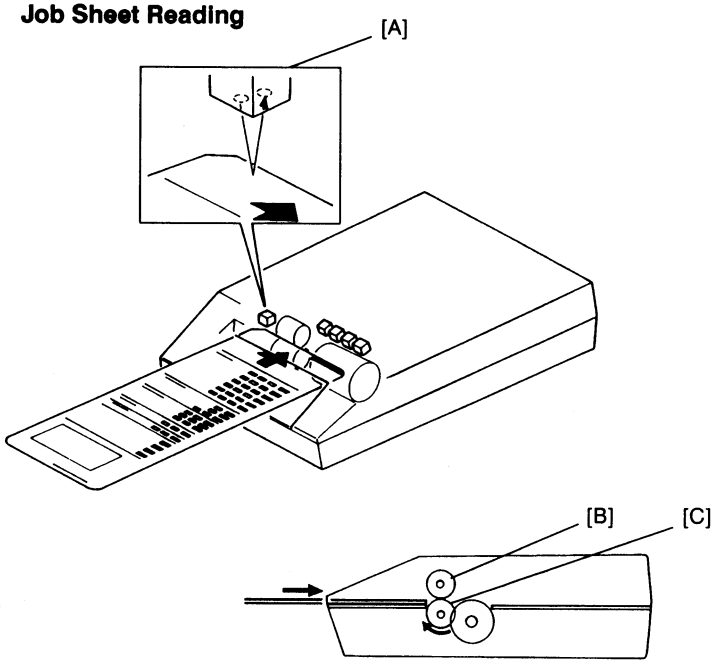
Copier –> Menu Reader

b7	b6	b5	b4	b3	b2	b1	b0	DATA CONTENTS
------	------	------	------	0	0	0	0	Insert Sheet OK/NG
------	------	------	------	0	0	0	1	
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
------	------	------	------	1	1	1	0	
1	1	1	1	1	1	1	1	Send OK

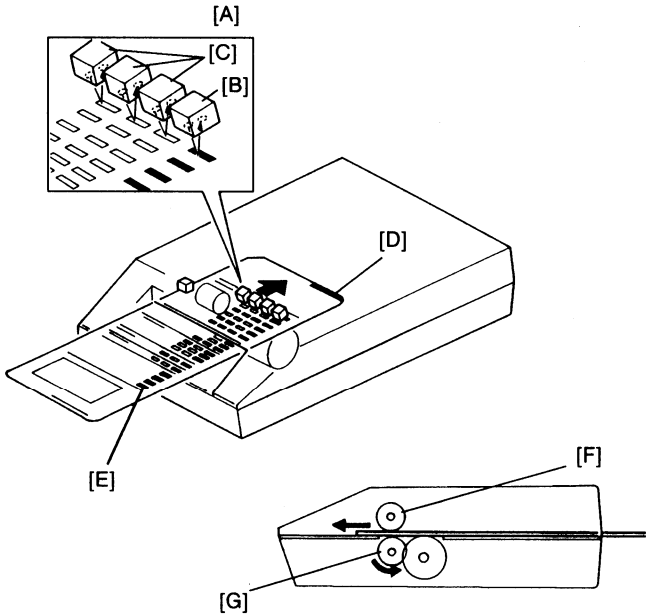
The contents of the reserve bytes are different in each market.

4. BASIC OPERATION

4.1 Job Sheet Reading



When a job sheet is inserted, the sheet detection sensor [A] detects the leading edge of the job sheet. The job sheet is then fed in by the upper and lower transport rollers [B, C].



The mark detection sensor [A] detects the reference line [D] and reads the job sheet. The mark detection sensor is composed of 4 photosensors. The sensor on the right [B] detects the reference line and reference marks [E], and the other sensors [C] read the job sheet data.

The menu reader CPU monitors signals from the mark detection sensor and measures the time between each reference mark. There are 25 reference marks along the sheet edge. After the 25th reference mark is read, the job sheet is fed out by the upper and lower transport rollers [F, G].

The operation panel status changes after the job sheet is read, and the job sheet information is sent to the copier CPU.

4.2 Menu Reader Indicator Lights

	Red Light	Green	Meaning
1	OFF	ON	A job sheet can be inserted.
2	ON	OFF	A job sheet is being read or the copier Start key stays red.
3	Blinks	OFF	A job sheet read error has occurred; the menu reader stops reading. Check the job sheet to make sure it is marked correctly and insert it again. Note: The red light blinks for 6 seconds; then, it stays on.
4	OFF	Blinks	A conversion error has occurred; insert the job sheet again. Note: The green light blinks for 6 seconds; then, it stays on.
5	Blinks	Blinks	The RAM contents have been changed or the menu reader has failed to read the ROM contents. Note: Turn the main switch off and on.

4.3 Processing Errors

Reference Line

If the referrence line dows not reach the mark detection sensor within 2.6 seconds after the job sheet is fed in, the job sheet is fed out. (Feeding out takes 1.6 seconds.) The red light blinks for 6 seconds; then, the job sheet can be reinserted.

Reference Mark

If the mark detection sensor detects the reference line and then fails to detect a reference mark within 0.2 seconds, or if it fails to detect a reference mark within 0.1 seconds, the job sheet is fed out and the red light blinks for 6 seconds; then, the job sheet can be reinserted.

Note: Occasionally, the job sheet feeds out to the rear side of the menu reader after a failure to detect the reference mark number.

Marking

When two or more selections are made for the same item, the menu reader cannot process the job sheet and the red light blinks (indicating an error).

Note: 1. When an item is not marked on the job sheet, the menu reader automatically reads as follows:

- Item -	- Indicator -
Copy Quantity	1
Reproduction Ration	100%

2. The job sheet may jam inside the menu reader if it is smaller than the specified size.

Caution: Sensors were set at the factory and cannot be adjusted in the field.

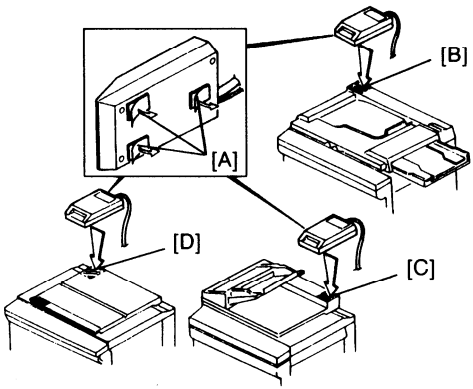
5. INSTALLATION

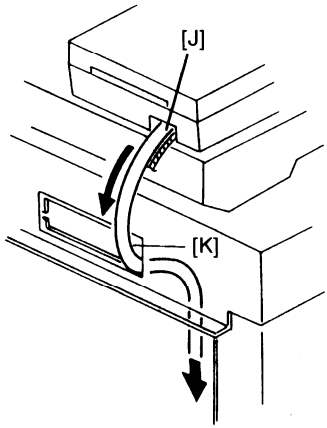
5.1 ACCESSORY CHECK

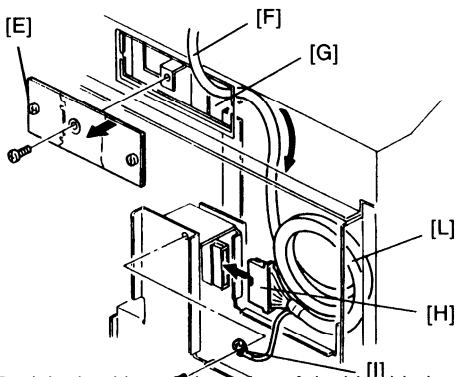
Make sure that each of the accessories listed below is in the box.

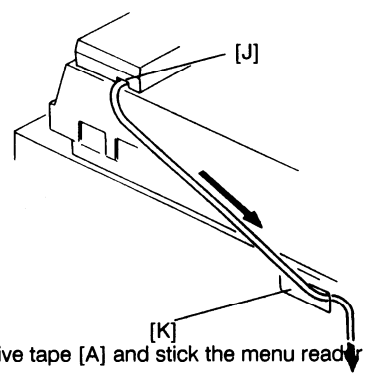
No.	Description	Q'ty
1	Installation Procedure	1
2	Decal Sheet	1
3	Ground Screw (M4 x 8 mm)	2
4	NECR	1
5	Envelope - NECR (115V machine only)	1

5.2 INSTALLATION PROCEDURE

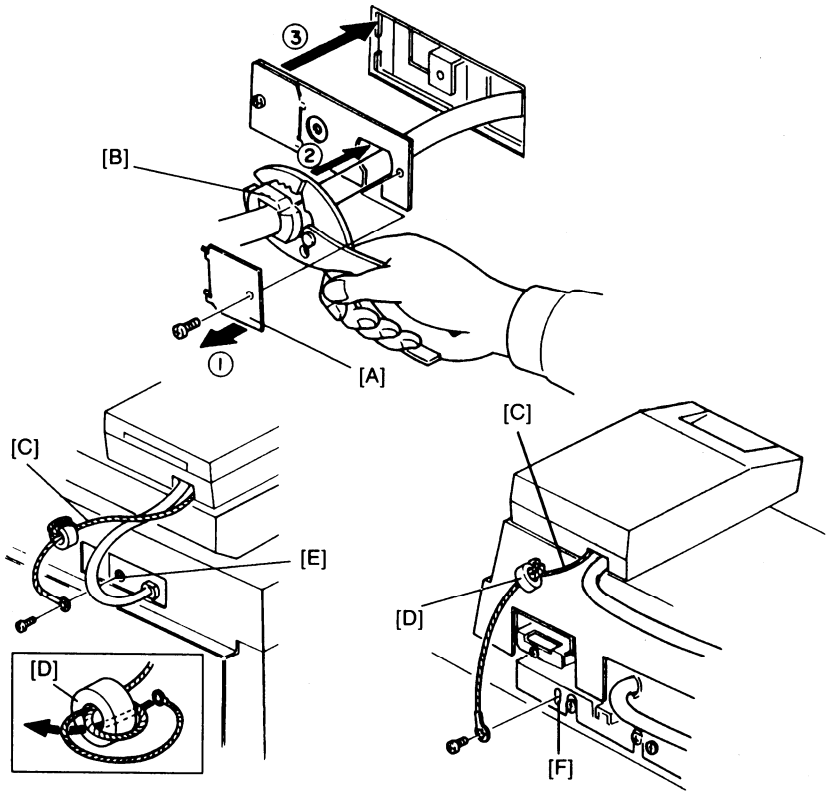








1. Peel the backing off the strips of double-sided adhesive tape [A] and stick the menu reader on the ARDF [B], RDH [C], or platen cover [D] as shown.
2. Turn off the main switch of the copier, and remove the rear cover (4 screws) and the cover plate [E] (1 screw).
3. Pass the harness [F] through the hole [G]. Then, plug in the connector [H] and secure the grounding wire [I] (1 grounding screw) as shown.
4. Pull the harness tight so that there is no slack between the menu reader [J] and the hole [K]. Then, place the extra portion [L] of the harness neatly inside the copier.

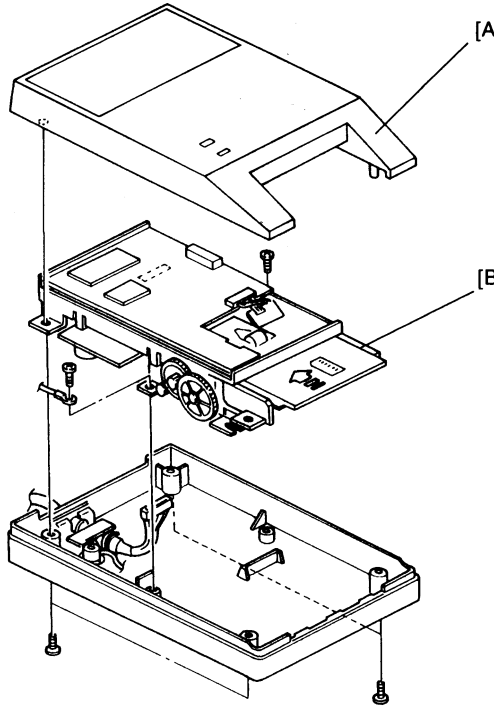


5. Remove the shield plate [A] (1 screw). Then, install the cord stopper [B] on the harness and use a pair of plyers to secure the stopper to the cover plate. Reinstall the cover plate (1 screw).

6. Wrap the grounding wire [C] twice around the coil [D] and secure the wire to the cover plate
   [E] or the screw [F] on the left side (rear view) of the RDH.

6. REPLACEMENT AND ADJUSTMENT

6.1 Lower Transport Roller Replacement



1. Turn off the main switch.
2. Remove the menu reader from the copier (3 strips of velcro tape).
3. Remove the upper cover [A] (4 screws) and the reader unit [B] (2 screws, 10P connector).

SECTION 13

TROUBLESHOOTING

Contents

TROUBLESHOOTING

1. SERVICE CALL CONDITIONS 13-1

2. DEFECTIVE SENSOR TABLE 13-8

1. SERVICE CALL CONDITIONS

Code #11: Exposure Lamp Malfunction

Definition:
Lights if the lamp filament breaks or if the lamp turns on during ready or please wait modes.

Observation:
When the main switch is turned on, call service code “11” is displayed.

Points to Check:
If the lamp is lit during the stand-by mode check CN103-5 on the main PCB. If it is not lit during copy cycle, check CN501-6 on the ac drive board.

Check the exposure lamp.

Code #12: Lamp Relay Open

Definition:
Lights if the lamp stays on longer than 15 seconds during a copy cycle.

Observation:
The lamp remains lit when the scanner returns to the home position.

Points to Check:
Check CN102-A20, CN101-A24, and CN103-5 on the main PCB.

Code #21: Scanner Home Position Not On

Definition:
The scanner drive motor is energized until the scanner home position sensor is blocked. If the scanner is not in the home position when the print key is pressed, an excessive number of pulses from the encoder are received and code 21 is illuminated.

Observation:
The scanner is out of home position when the print key is pressed.

Points to Check:
Check that the scanner is working properly. Check CN306-2 and CN306-3 on the optics board. If it is not working properly, check the scanner drive wire and the scanner drive pulley screws.

Code #22: Scanner Home Position Stays High

Definition:
Lights if the scanner home position sensor is open at power-up.

Observation:
The scanner eventually moves to the right as on/off key is activated until code 2D is displayed.

Points to Check:
Check that the scanner is working properly. Check CN305-3 on the optics board.

Code #24: No Home Position Signal

Definition:
Lights if the main board does not receive the H.P. signal from the optics board within 20 seconds after the scanner return signal.

Observation:
Code 24 is displayed within 20 seconds after power-up.

Points to Check:
Check CN106-5 and 6 on the main PCB.

Check CN304-4 and 5 on the optics board.

Code #25: Scanner Home Position Sensor Stays Low

Definition:
Lights if the scanner home position sensor is shorted at power-up.

Observation:
Scanner moves to the extreme left at power-up.

Points to Check:
Check CN305-3 on the optics board.

Code #28: Lens Home Position Sensor Stays Low

Definition:
Lights if the lens is moving towards enlargement, and the H.P. sensor stays at a LOW signal level for longer than 3.82 seconds.

Observations:
1) The lens always moves toward enlargement at power-up.
2) The lens is to the right of the H.P. sensor and the lens motor does not turn on.

Points to Check:
Check if the lens is moving properly. Check CN305-9 on the optics board. Check the lens drive section, optics board, and lens drive motor.

Code #29: Lens Home Position Sensor Stays High

Definition:
Lights if the lens is moving toward reduction at power-up and the H.P. sensor stays at a high signal level longer than 3.82 seconds.

Observations:
1) The lens always moves toward reduction at power-up.
2) The lens is to the left of the H.P. sensor and the lens motor does not turn on.

Points to Check:
Confirm that the lens is moving properly.

Check CN305-9 on the optics board. Check the lens drive section, optics board, and lens drive motor.

Code #2A: 4th/5th Mirror Home Position Sensor Stays Low

Definition:
Lights if the 4th/5th mirror sensor does not actuate within 1.83 seconds after the mirror motor is turned on.

Observations:
At power-up, the 4th/5th mirror drive rotates counterclockwise past the home position sensor. If the main switch is turned off and on, the mirror motor emits a noise and stays at the home position.

Points to Check:
Check if the 4th/5th mirror assembly is moving properly.

Check CN305-12 on the optics board. Check the 4th/5th mirror section, optics board, and mirror drive motor motor.

Code #2B: 4th/5th Mirror Sensor Stays High

Definition:
Lights if the 4th/5th mirror home position sensor remains actuated for 1.83 seconds after the mirror motor turns on.

Observations:
At power-up, the 4th/5th mirror drive rotates clockwise and the actuator leaves the home position sensor. If the main switch is turned off and on, the drive pulley continues to drive in a clockwise direction until the mirror motor emits a noise and stops at the extreme right.

Points to Check:
Confirm that the second scanner moves properly.

Check CN305-12 on the optics board. Check the 4th/5th mirror section, optics board, and mirror drive motor.

Code #2D: No Encoder Output

Definition:
Lights during a copy cycle when the output frequency from the scanner motor encoder is not detected for 490 milliseconds after the scanner motor is energized, of if the scanner home position sensor opens or shorts during a copy cycle.

Observation:
1) During the copy cycle the scanner first moves, then stops.
2) The scanner does not move at all.

Points to Check:
Check the scanner drive motor, the scanner home position sensor, and CN306-2, 3 on the optics board.

Code #31: Drum Thermistor Blown

Definition:
Lights when the drum thermistor circuit is open.

Observation:
Copies are dirty.

Points to Check:
Check the resistance between CN36-3 and CN36-D on the ID sensor board.

(Reference value: 10 kohms at 25°C)

Check CN103-13 on the main PCB.

Code #52: Thermofuse Blown

Definition
Lights if the thermofuse circuit becomes open or the fusing unit is not set correctly.

Observation
Code #52 is displayed immediately after main switch is turned on.

Points to Check
Confirm that +24 volts exists at CN102-B19 on the main board.

Confirm that the fusing unit is properly set.

Code #53: Thermistor Blown

Definition
Lights if the fusing thermistor is open.

Observation
Code #53 is displayed immediately after the main switch is turned on.

Points to Check
Disconnect the white thermistor connector on the front side of the fusing unit. Check the resistance of the thermistor at the white connector.

- Reference value: 1.10 kohms at 180°C 180 kohms at 10°C

Code #54: Ready Signal Not On

Definition
Lights if the idle signal is not received within 8 minutes after the power relay turns on.

Observation
The fusing lamp does not turn on. The ready beeper does not sound and code #54 is displayed 8 minutes after power is turned on.

Points to Check
Check the power relay, fusing lamp, ac drive board, and operation panel board.

To control effects of electrical noise from surrounding machines, try JP100.

Check for poor contact in the fusing unit connector.

Code #55: Fusing Overheat

Definition
Lights if the voltage at CN103-4 (fusing thermistor) drops below 0.53 V for 0.4 second.

Observation
The fusing lamp stays on after the temperature rises above 220°C.

Points to Check
Check the voltage at CN504-1 on the ac drive board for line voltage.

Check the resistance of the thermistor.

- Disconnect the white thermistor connector on the front side of the fusing unit.
- Reference value: 1.10 kohms at 180°C 180 kohms at 10°C

Code #81: Jogger Home Position Sensor Not Off

Definition:
Lights if the jogger home sensor output stays LOW.

Observation:
Code #81 will be displayed during duplex mode copy cycles if there is vibrating noise from the jogger.

Points to Check:
Check the voltage at CN104-B2 on the main PCB.

Check the jogger motor.

Code #82: Jogger Home Position Sensor Not On

Definition:
Lights if the jogger home position sensor output stays HIGH.

Observation:
Code #82 will be displayed during duplex mode copy cycles if there is vibrating noise from the jogger.

Points to Check:
Check the voltage at CN104-B2 on the main PCB.

Check the jogger motor.

Code #91: Total Counter Malfunction

Definition
Lights if the total counter is not set or is defective.

Observation
Total counter does not click during copy cycle.

Points to Check
Check the voltage at CN102-A25 on the main board.

Check the total counter.

2. DEFECTIVE SENSOR TABLE

Name	Condition	Problem
1st and 2nd Paper End	Open	Paper End indicator stays on.
	Short	Paper End is not indicated and Start key stays green even when paper runs out.
1st and 2nd Paper Size	Open	The erase unit does not function properly. * is indicated when the A3 or 11" x 17" cassette is installed. A4 sideways is indicated when the A4 lengthwise cassette is installed. 8.5" x 11" is indicated when the 11" x 8.5" cassette is installed.
	Short	The erase unit does not function properly. A4 lengthwise is indicated when the A4 sideways cassette is installed. 11" x 8.5" is indicated when the 8.5" x 11" cassette is installed.
Manual Feed	Open	Manual Feed is indicated when the manual feed table is closed.
	Short	Manual Feed is not indicated when the manual feed table is opened.
1st and 2nd Lift	Open	The SC (41: 1st, 42: 2nd, 43: 3rd, 44: 4th) is incremented 20 seconds after the cassette is installed.
	Short	The lift motor does not turn on and copying is inhibited when the cassette is installed.
Registration	Open	When the Start key is pressed, the copy paper is fed to the registration section, where a misfeed occurs. "A" lights on the Misfeed Location indicator.
	Short	"A" lights on the Misfeed Location indicator when the main switch is turned on.

Name	Condition	Problem
Fusing Exit	Open	When the start key is pressed, the copy paper is fed to the fusing rollers. 100 mm after the leading edge passes through the fusing rollers, "B" on the Misfeed Location indicator lights.
	Short	"B" on the Misfeed Location indicator lights when the main switch is turned on.
Exit	Open	When the start key is pressed, the paper is fed through the fusing rollers. 70 mm after the leading edge passes the exit sensor, "C" on the Misfeed Location indicator lights.
	Short	"C" on the Misfeed Location indicator lights when the main switch is turned on.
Toner End	Open/Short	Toner end is not detected when toner runs out.
Pulse Generator	Open/Short	SC 61 is indicated 3 seconds after the Start key is pressed.
ID Sensor	Open/Short	The wrench mark is indicated and toner supply switches to fixed supply mode.
Scanner Home	Open	When the main switch is turned on, the scanner moves 180 mm, and SC 22 is indicated.
	Short	When the main switch is turned on, SC 22 is indicated.
Lens Home	Open	SC 29 is indicated 3 seconds after the main switch is turned on.
	Short	SC 28 is indicated 3.7 seconds after the main switch is turned on.
4th/5th Mirror	Open	SC 2B is indicated 3 seconds after the main switch is turned on.
	Short	SC 2A is indicated 0.3 seconds after the main switch is turned on.

Name	Condition	Problem
Inverter Exit	Open	When the Start key is pressed in duplex mode, paper is fed to the inverter section. 80 mm after the leading edge of the paper passes the inverter exit sensor, "D" on the Misfeed Location indicator lights.
	Short	"D" on the Misfeed Location indicator lights when the main switch is turned on.
Duplex Entrance	Open/Short	When paper is stacked in the duplex tray in duplex mode, "D" on the Misfeed Location indicator lights.
Duplex Paper	Open	After completion of first side copying in duplex mode, the paper is not fed from the duplex tray when the Start key is pressed to begin second side copying. (The copy paper in the duplex tray is not detected.). Instead, the paper is fed from the normal paper feed station and is stacked in the duplex tray.
	Short	Second Side Copy is indicated when duplex mode is selected.
Jogger Home	Open	When the main switch is turned on, the joggers move all the way in. Six seconds later, SC 82 is indicated.
	Short	When the main switch is turned on, the joggers move all the way out. Six seconds later, SC 82 is indicated.
Auto Density	Open	The copy image is too light.
	Short	The copy image is too dark.
Oil End	Open	Oil End is not indicated when oil runs out.
	Short	Oil End indicator stays on.
Toner Overflow	Open	Toner Overflow is not indicated when the toner collection bottle is full.
	Short	Toner Overflow indicator stays on.

Name	Condition	Problem
Manual Feed Paper End	Open	Paper End indicator stays on.
	Short	Paper End is not indicated and the Start key stays green when paper runs out.
CC Cleaner Home Position	Open	SC 85 is incremented.
	Short	SC 86 is incremented.
SC Cleaner Home Position	Open	SC 87 is incremented.
	Short	SC 88 is incremented.
Platen Cover	Open	Remove Original is indicated after the original is removed.
		The original counter (SP 114) does not increment when the platen cover is raised to remove an original.
	Short	Remove Original is not indicated when an original is not removed after copying.
		The original counter (SP 114) does not increment when the platen cover is raised to remove an original.

SECTION 14

15 BIN SORTER

Contents

15 BIN SORTER

1. SPECIFICATIONS 14-1

2. MECHANICAL COMPONENT LAYOUT 14-2

3. DRIVE LAYOUT 14-3

4. ELECTRICAL COMPONENT LAYOUT 14-4

5. ELECTRICAL COMPONENT DESCRIPTIONS 14-5

6. BASIC OPERATION 14-6

7. FUNCTIONAL AND ELECTRICAL DESCRIPTION 14-10

7.1 Power Supply 14-10

7.2 Bin Gate Operation 14-11

7.3 Relay Guide Plate Reset Mechanism 14-12

7.4 Interface with the Copier 14-13

7.5 Jam Sensors 14-15

7.6 Inlet Sensor 14-16

7.7 Misfeed Check 14-17

8. INSTALLATION 14-19

8.1 Accessory Check 14-19

8.2 Installation Procedure 14-20

9. SERVICE TABLES 14-25

10. REPLACEMENT AND ADJUSTMENT 14-27

10.1 Sorter Removal 14-27

10.2 Inlet sensor Replacement 14-28

10.3 Jam Sensor Replacement 14-29

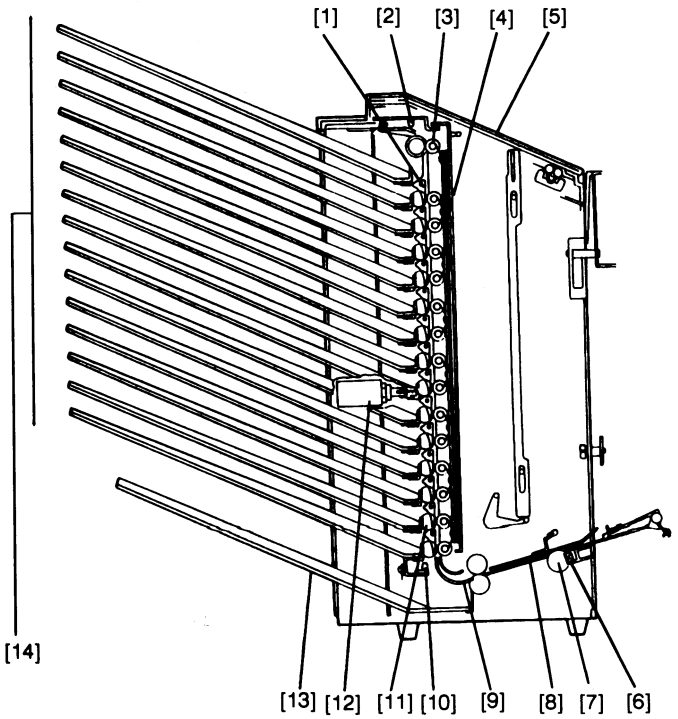
10.4 Sponge Roller Replacement 14-30

10.5 DC Motor Replacement 14-32

1. SPECIFICATIONS

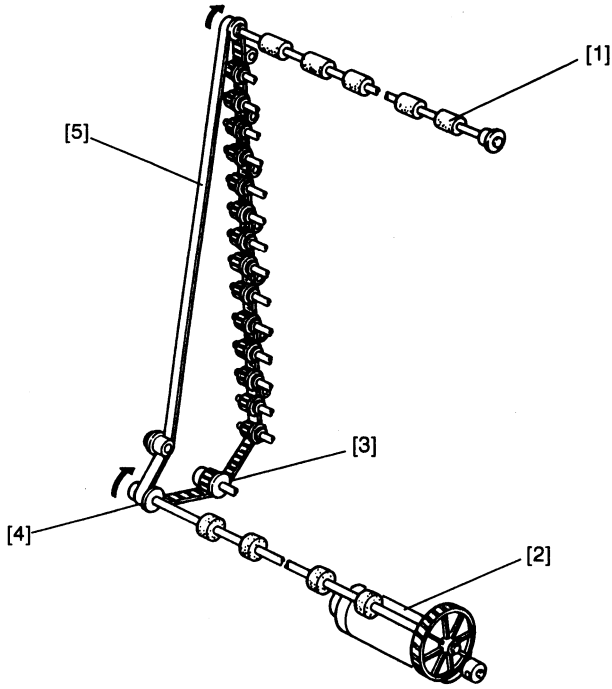
Paper Size for Bins:	Max. 11" x 17" or A3 Min. 8½" x 5½ or A5
Copy Paper Weight:	53 g to 90 g (14 lbs to 24 lbs)
Number of Bins:	15 bins and 1 interrupt bin
Bin Capacity:	Sort---50 sheets/bin Stack---40 sheets/bin
Top Bin Capacity (Clear Mode):	150 sheets
Interrupt Bin Capacity:	100 sheets
Power Source:	100 V/60 Hz (115 V) from copier 100 V/50 Hz (220/240 V) from copier
Power Consumption:	45 W
Dimensions (W x D x H):	499 mm x 535 mm x 600 mm 19.6" x 21.1" x 23.6"
Weight:	23.0 kg (50.7 lbs)

2. MECHANICAL COMPONENT LAYOUT



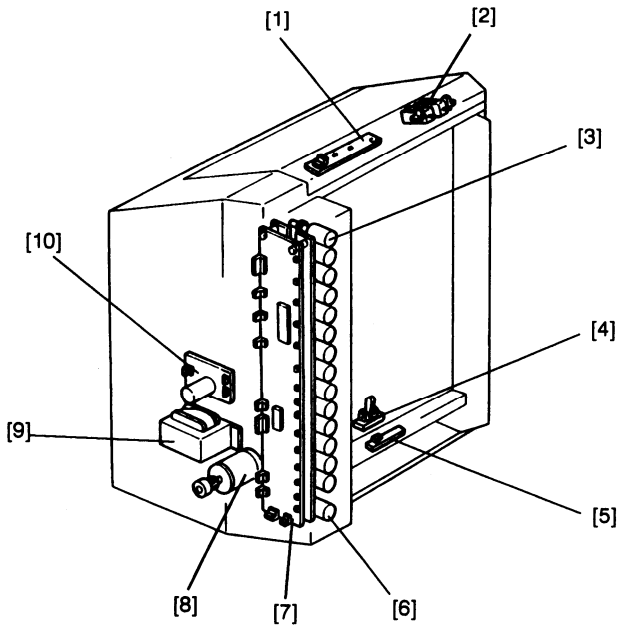
1. Vertical Drive Rollers
2. Jam Sensor (Photo Tr.)
3. Pressure Rollers
4. Vertical Guide Unit
5. Sorter Cover
6. Inlet Sensor
7. Sponge Roller
8. Relay Guide Plates
9. Turn Gate
10. Jam Sensor (LED)
11. Bin Gates
12. Bin Gate Solenoids
13. Interrupt Bin
14. Standard Bins

3. DRIVE LAYOUT



1. Vertical Drive Rollers (15 rollers)
2. Sorter Drive Motor
3. Turn Gate Roller Pulley
4. Sponge Roller Pulley
5. Drive Roller Timing Belt

4. ELECTRICAL COMPONENT LAYOUT



1. Jam Sensor (Photo Tr.)
2. Sorter Cover Safety Switches
3. Bin Gate Solenoids
4. Inlet Sensor
5. Jam Sensor (LED)
6. Interrupt Bin Gate Solenoid
7. Sorter Main Board
8. Sorter Drive Motor
9. Transformer
10. Power Supply Unit

5. ELECTRICAL COMPONENT DESCRIPTIONS

NAME	FUNCTION
Sorter Drive Motor	Drives all the sorter's rollers.
Bin Gate Solenoids	Open and close the appropriate bin gates.
Interrupt Bin Gate Solenoid	Opens and closes the interrupt bin gate.
Sorter Cover Safety Switches	Cut dc 5-volt and motor dc lines.
Inlet Sensor Misfeed detector	
Jam Sensor (PT)	Misfeed detector (light receiving element)
Jam Sensor (LED)	Misfeed detector (light emitting element)
Sorter Main Board	Controls all sorter functions.
Power Supply Unit	Rectifies ac 23-volt input and outputs dc voltages.
Transformer	Steps down the copier's ac 100-volt to ac 23-volt.

6. BASIC OPERATION

-Introduction-

Sorter operation begins when the Start key is depressed. At that time, the sorter drive motor turns on and the rollers start turning.

The sorter has two paper transport speeds. When paper first enters the sorter, it is transported at the “slow speed” of 325 mm/s. This is slightly faster than the copier transport speed. When the trailing edge of the paper passes the exit sensor of the copier, the sorter shifts to the “high speed” of 675 mm/s. The high speed not only decreases copy delivery time, but also improves delivery to the bins, preventing jams at the bin entrance due to paper pile up.

After the trailing edge of the copy passes the jam sensor, the sorter motor turns off at the same time as the copier main motor.

-Clear Mode-

The copies pass from the copier exit through the relay guide plates to the turn gate. The turn gate directs the paper to the vertical guide unit. The vertical drive rollers then move the paper up until it reaches the turn guide. The turn guide directs the paper to the first bin. During transport of the copies in this mode, none of the bin gates are used.

-Sort Mode-

When in sort mode, the first sheet is placed in the first bin in the same way as when in clear mode.

The second and subsequent copies follow the same path but are directed to the bins in order from top to bottom (second copy to second bin, third to third bin, and so on). The appropriate bin gate solenoid turns on when the trailing edge of the previous sheet passes the jam sensor and turns off when the trailing edge of the paper passes the jam sensor.

If 16 or more is entered while in sort mode, the guidance display will indicate that the maximum copy entry is 15 and the Quantity Entered counter will display 15.

When the sorter bin capacity is set to “limit” by using service program mode #76, copying will stop at the maximum bin capacity for sort mode (50 sheets/bin) and the guidance display will indicate that the sorter is full.

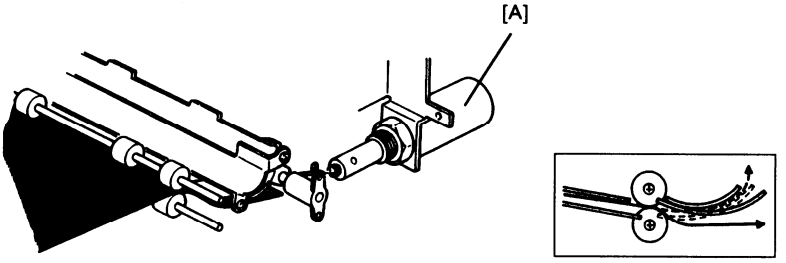
-Stack Mode-

When in stack mode, all sheets of the first copy run go to the top bin just as in clear mode. When the Start key is depressed again, the entire second run is directed to the second bin. Similarly, the third run goes to the third bin and the fourth run to the fourth bin.

If the mode is not changed, the sorter will continue in this way, sending all copies from a single run to one bin and dropping down one bin each run until there are copies in all 15 bins. Upon completion of the copy run to the 15th bin, copying will stop and the guidance display will indicate that the sorter is full.

When the sorter bin capacity is set to “limit” by using service program mode #76, the guidance display will indicate that the maximum copy entry is 40 and the Quantity Entered counter will display 40 if the operator enters a number greater than 40 (the maximum bin capacity for stack mode).

-Interrupt Mode-



If the Interrupt key is depressed during a multicopy run, the sorter continues to place copies in the correct bins until that copy run is finished. Which bin the copies go to depends on the mode: sort, stack, or clear.

Then, the operator depresses the Start key to make interrupt copies. As each of the interrupt copies enters the sorter, the sorter CPU energizes the interrupt solenoid [A] and the copies are directed to the interrupt bin.

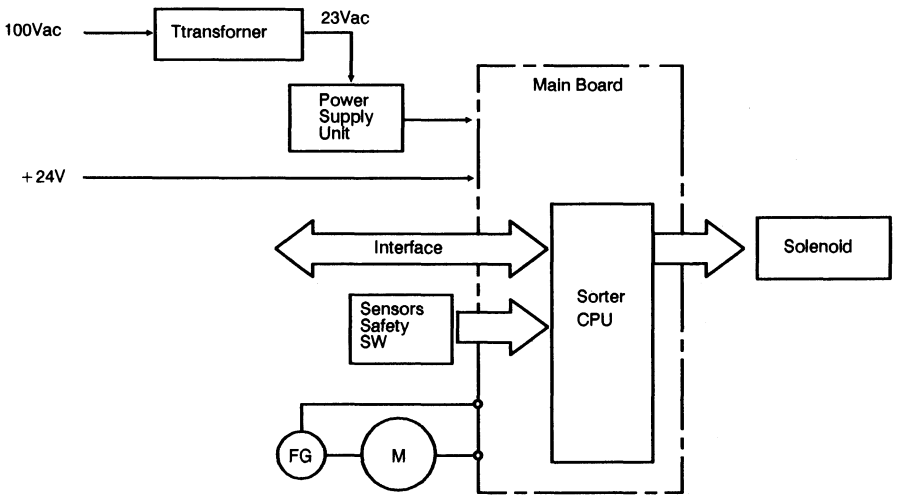
When the interrupt mode is canceled, the previous settings and modes are returned to resume the previous copy run that was interrupted.

-Sorter Misfeed-

The sorter CPU starts the misfeed timing count when the inlet sensor turns on. If the copy is not fed into the bin within a specified period (different for each bin) the sorter CPU will send a misfeed signal to the copier. The copier will then light the Sorter Misfeed indicator and stop operation. (Any copies in the paper path at the time will be finished first.)

The sorter CPU directs any copies that are being processed in the copier at the time of a sorter misfeed to the interrupt bin. It also corrects the copier's Quantity Completed counter so that it displays only the number of copies actually in the top 15 bins. After removing the misfed paper, the misfeed condition is automatically cleared when the sorter cover is opened and closed.

-Control-



The sorter has its own CPU which controls all the functions of the sorter. The sorter CPU communicates with the copier through a parallel interface bus.

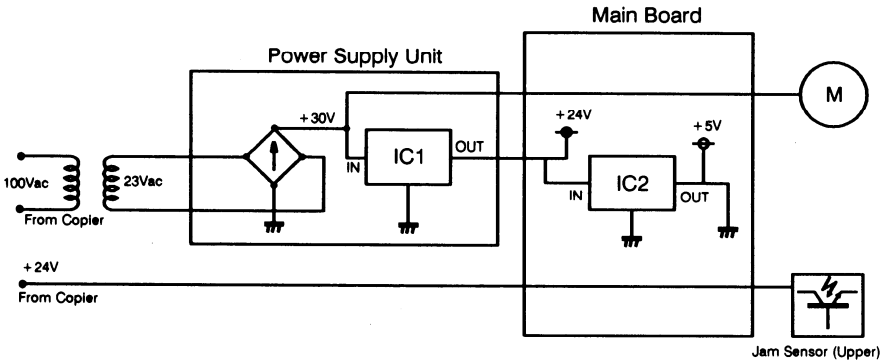
The sorter supplies 100 Vac to the transformer. The transformer changes this 100 Vac to 23 Vac and it is then supplied to the dc power supply unit. The copier also supplies +24 V to the jam sensor through the main board.

Input signals from the sensors and the safety switches are sent to the sorter CPU directly. The sorter CPU operates the bin solenoids and the sorter drive motor.

This sorter uses a dc motor. The motor speed is fixed by using a frequency generator (FG). The dc motor operates at high and low paper transport speeds.

7. FUNCTIONAL AND ELECTRICAL DESCRIPTION

7.1 Power Supply

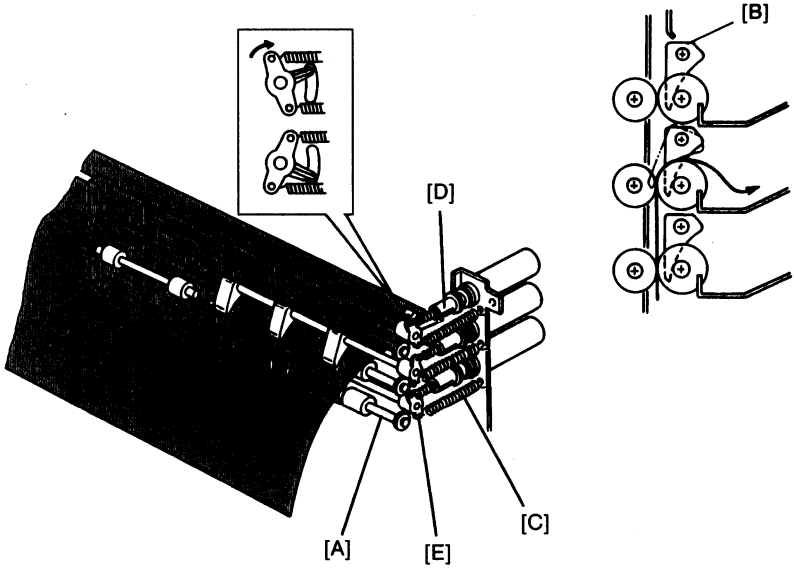


When the copier's main power switch is turned on, the copier supplies 100 Vac to the sorter's inner transformer. The transformer drops it to 23 Vac. This 23 Vac is changed to +24 V (Vs) through the rectifier and the voltage regulator IC (IC1) in the sorter power supply unit. And also, 23 Vac is changed to +30 V (Vm) through the rectifier only. +24 V (Vs) is dropped to +5 V by IC2 in the sorter main board.

+24 V is then supplied to the solenoids and jam sensor (LED), +30 V (Vm) is supplied to the dc motor, and +5 V is supplied to the CPU, the other ICs, and the inlet sensor.

+24 V (Va) is supplied from the copier to the sorter main board. +24 V (Va) is supplied only to the upper jam sensor in order to prevent the sensor from misoperating because of a change of voltage.

7.2 Bin Gate Operation

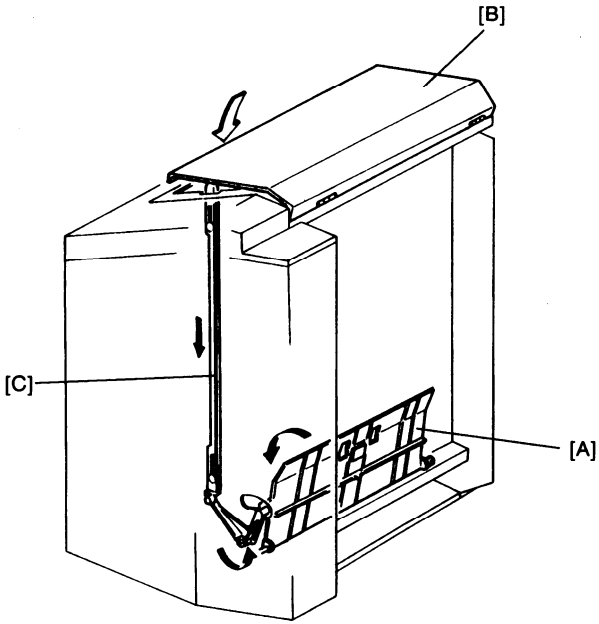


Each bin gate shaft [A] is individually controlled by a solenoid. Normally, the bin gates [B] are held out of the paper path by the return spring [C].

To feed paper into a bin, the sorter CPU energizes the appropriate solenoid. The solenoid plunger [D] then rotates the bin gate lever [E] and opens the gate out into the paper path. The curved inner face of the gate directs the paper into the bin.

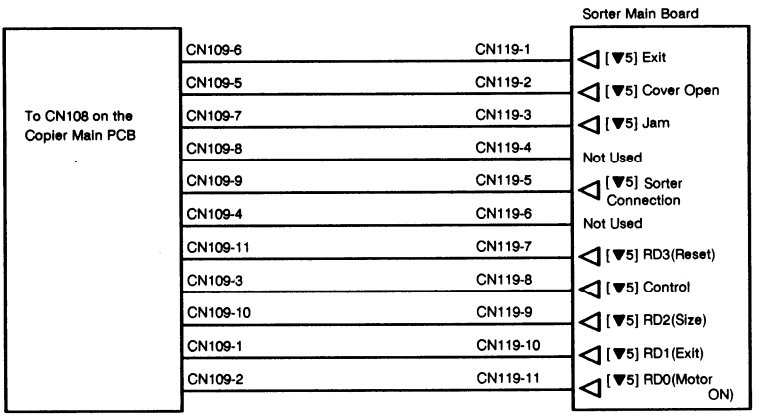
After the paper passes into the bin, the solenoid turns off and the return spring pulls the bin gate lever back to the closed position.

7.3 Relay Guide Plate Reset Mechanism



This mechanism prevents the relay guide plate [A] from being left up after misfed paper has been removed from the sorter. When the operator closes the sorter cover [B], the reset lever [C] is pushed down, returning the relay guide plate to the horizontal position.

7.4 Interface with the Copier



The above interface is used for communication between the copier and the sorter. There are 5 lines to send data to the copier, and there are 6 lines to send data to the sorter.

The functions of these lines are as follows:

Table 1

Data direction: from sorter to copier

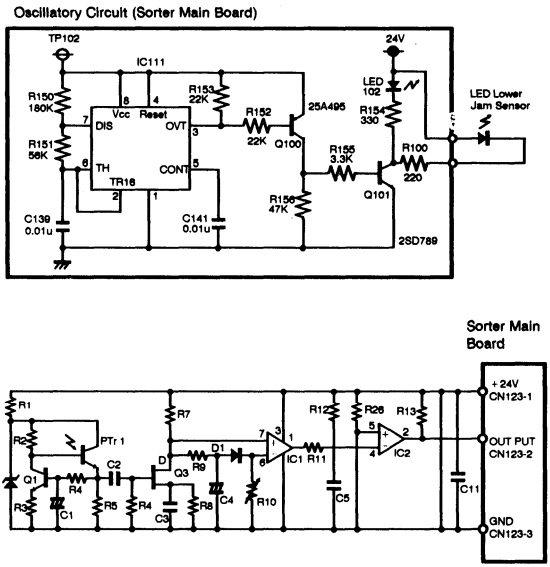
Connector No.	Name	Function
CN119-1	Exit	Informs the copier when the copy paper is fed out to the sorter bin.
CN119-2	Cover Open	Informs the copier when the sorter upper cover is opened.
CN119-3	Jam	Informs the copier when a jam occurs in the sorter.
CN119-4		Not used
CN119-5	Sorter Connection	Informs the copier when the sorter is connected to the copier.

Table 2

Data direction: from copier to sorter		
Connector	**Name**	**Function**
CN119-6		Not used
CN119-7	Reset	Function A: Informs the sorter when SP71 is set to enable the sorter.
CN119-8	* Control	Lets the sorter distinguish between Function A and Function B.
CN119-9	Size	Function A: Informs the sorter of the paper size. (Shorter than 300 mm, or longer than or equal to 300 mm)
CN119-10	Exit	Function A: Informs the sorter when the copier exit sensor is activated.
CN119-11	Motor ON	Function A: Informs the sorter when the copier main motor is ON.
CN119-7 -9 -10 -11	RD3 RD2 RD1 RD0	Function B: Informs the sorter of the appropriate bin number by the combination of the binary states of these 4 signals.

* The control line (CN119-8) switches between HIGH and LOW. When the control line is HIGH, CN119-7, -9, -10, -11 are used for Function A.
When the control line is LOW, CN119-7, -9, -10, -11 are used for Function B.

7.5 Jam Sensors



The jam sensor detects misfeeds of paper in the sorter.

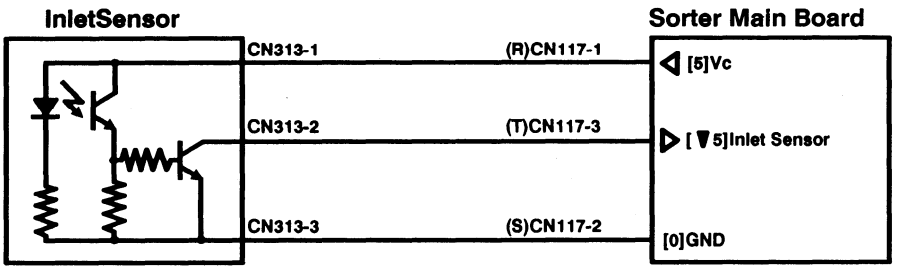
The LED on the lower jam sensor board is turned on by a pulse signal which is supplied by an oscillator.

This pulse signal detection system has an advantage over a photointerruptor system because there is no noise from external light.

When there is no paper between the upper and the lower jam sensors, the LED on the lower jam sensor board activates a photransistor (PTr1) on the upper jam sensor board. PTr1 turns on Q3, which causes IC1 pin 6 to have a higher voltage than pin 7. IC1 pin 1 then goes LOW. IC2 pin 4 is then lower than pin 5, causing pin 2 of IC2 to output HIGH. This HIGH signal at CN123-2 informs the sorter main board that no paper is present.

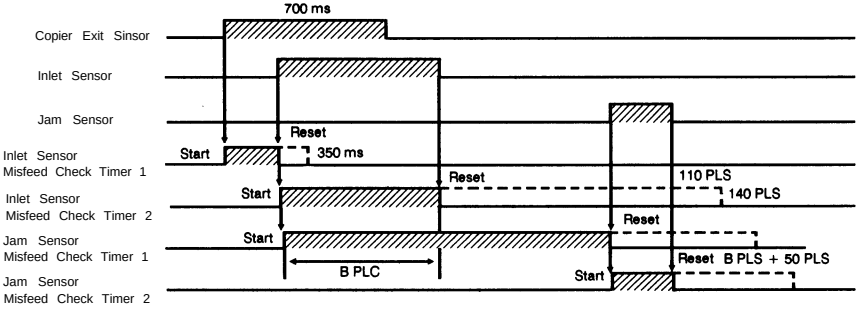
When paper is entering a bin, the phototransistor (PTr1) turns off. This causes the circuit to output a LOW signal to CN123-2. The sorter main board determines that paper is in the bins.

7.6 Inlet Sensor



The inlet sensor is a photointerrupter. When the photointerrupter is not blocked (on), the connected main board pin becomes 0 volts. When the photointerrupter is blocked (off), it sends a high signal to the main board.

7.7 Misfeed Check



The sorter has two sensors which are used to detect misfeeds in the sorter. Also, the exit sensor in the copier is used to check for misfeeds in the sorter. The two sorter sensors each have two misfeed check timers. After each misfeed check timer is set (starts), misfeed check is continuous for the timer period. The timer must be reset within the timer period by the appropriate sensor going either ON or OFF as shown in the following table. If the timer is not reset within the timer period, the sorter CPU determines that there has been a misfeed and it energizes the interrupt solenoid to allow the remaining copies to go to the interrupt pin.

Name	Timer Set	Timer Reset	Timer period
Inlet Sensor Misfeed Check Timer 1 (ON Check)	Copier's exit sensor ON	Inlet sensor ON	350 ms (*1)
Inlet Sensor Misfeed Check Timer 2 (OFF Check)	Inlet sensor ON	Inlet sensor OFF	110 pulses (For paper shorter than 300 mm) 140 pulses (For paper longer than or equal to 300 mm)
Jam Sensor Misfeed Check Timer 1 (ON Check)	Inlet sensor ON	Jam sensor ON	A pulses (*2)
Jam Sensor Misfeed Check Timer 2 (OFF Check)	Jam sensor ON	Jam sensor OFF	B + 50 pulses (*3)

*1 Time control, not pulse control, is used for only this period because the pulse count for the period changes greatly due to the high and low paper transport speeds.

*2 "A pulses" depends on which bin the paper is going to. For the first bin, this period is 202 pulses.

*3. "B pulses" is the length of time that the inlet sensor is ON. This period is uncertain because it depends both on the length of the paper and the amount of paper slippage.

8. INSTALLATION

8.1 Accessory Check

Check the quantity and condition of the accessories in the box according to the following list.

- Installation Procedure 1
- NECR 1
- Bin 15
- Interrupt Bin 1
- Stud 2
- Grounding Screw 1
- Toothed Screw 1
- Sorter Adapter 1
- Screw - M4 x 6 2
- Multiple Language Decal (220/240V only) 1
- Envelope - NECR (115V only) 1

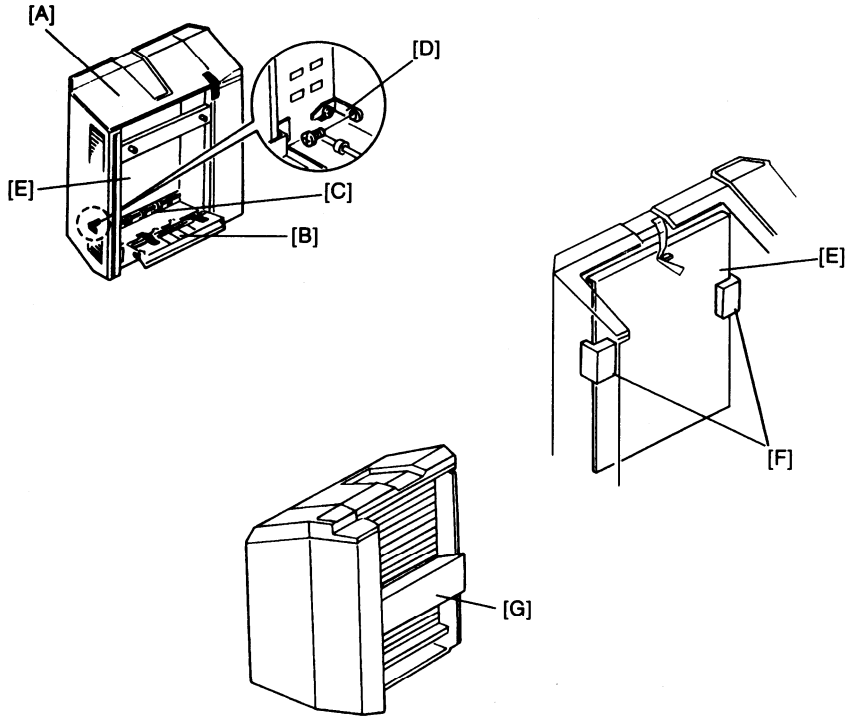
Note: Some older copiers may have incompatible EPROMs. When the sorter cannot be enabled by setting SP71, check the EPROMs on the copier main board and the operation panel board. If the copier uses the following EPROM part numbers, they must be changed.

A007 5103	EPROM-IC 103 on the main board
A007 5145	EPROM-IC 821 on the operation panel board
A007 5146	EPROM-IC 822 on the operation panel board
A007 5147	EPROM-IC 823 on the operation panel board

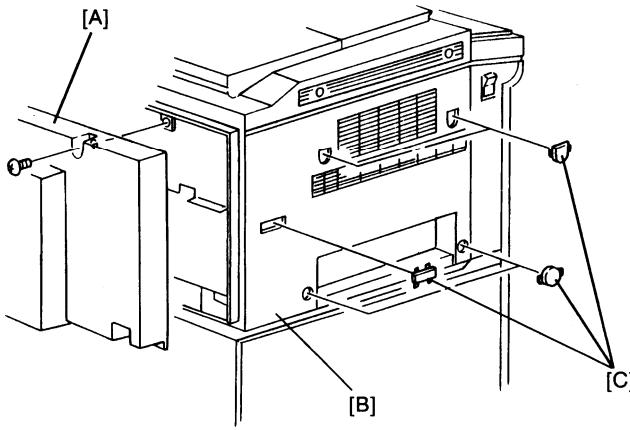
The new EPROMs can be ordered as a set.

A007 9502 15 bin Sorter ROM kit

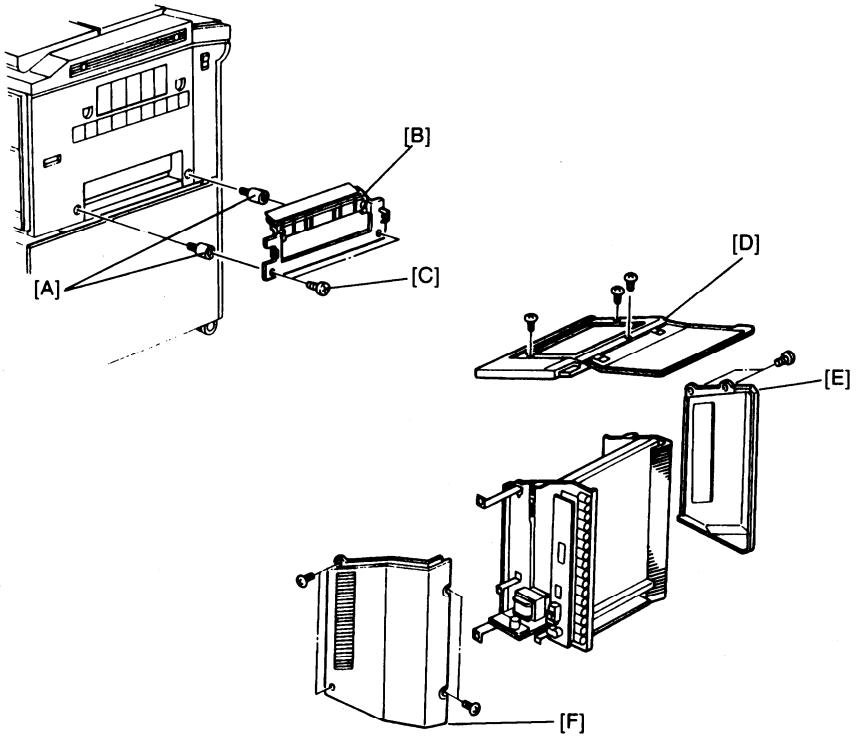
8.2 Installation Procedure



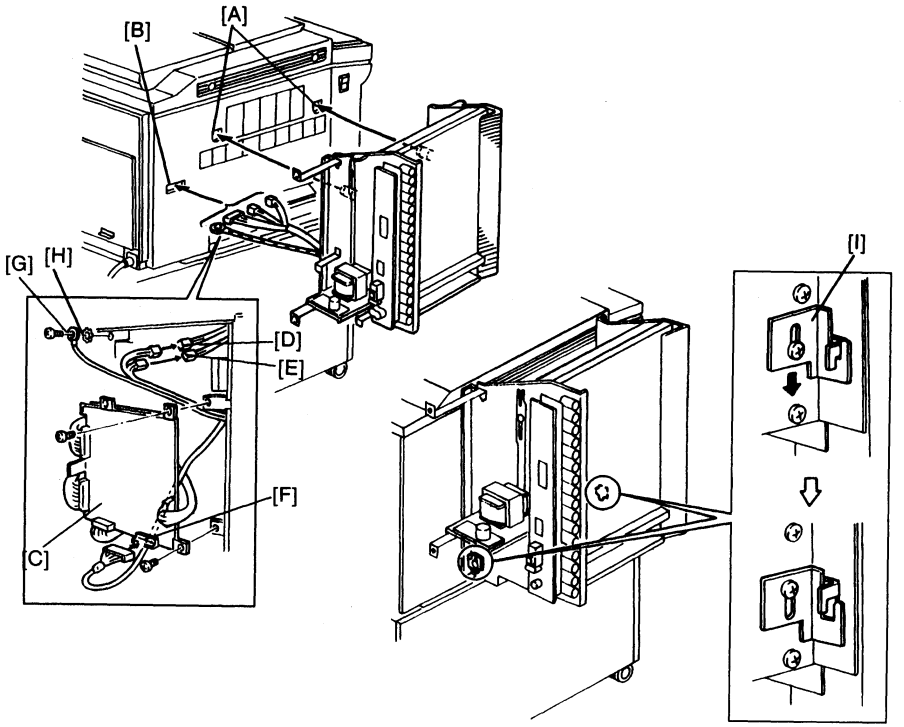
1. Remove the tape holding the upper cover [A].
2. Remove the two strips of tape holding the relay guide plates [B] and take out the cushion block [C].
3. Remove the shipping retainer [D] from the bottom of the vertical guide unit [E] (1 screw).
4. Open the upper cover and remove the tape holding the vertical guide unit [E].
5. Take out the two cushion blocks [F] holding the vertical guide unit and the shipping retainer [G].



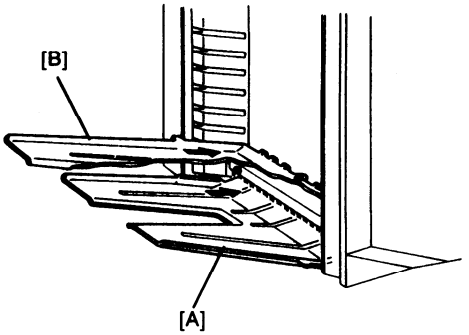
6. Turn off the main switch of the copier.
7. Remove the rear [A] and left covers [B] of the copier (6 screws).
8. Remove the 5 plastic caps [C] from the docking holes.
9. Remount the left cover.

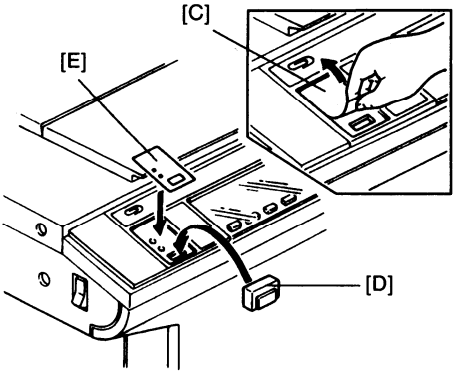


10. Screw in the two mounting studs [A], then install the sorter adapter [B] with two screws [C].
11. Remove the upper cover [D] (3 screws).
12. Remove the front [E] and rear covers [F] of the sorter (6 screws).



13. Mount the sorter on the copier through the docking holes [A].
14. Pass the sorter's harnesses through the rectangular docking hole [B].
15. Remove the main board shielding plate (2 screws) and swing the board [C] to the left (2 screws), then connect the red 2P connector [D] to the red 2P free connector and the white 4P connector [E] to the white 4P free connector.
16. Connect the harness from the sorter to CN108 [F] on the main board. Secure the ground wire [G] as shown (toothed washer [H] is also installed for the European version).
17. Secure the sorter to the sorter adapter by fixing the brackets [I] while lifting them up (1 screw each).
18. Remount the upper, front, and rear covers.





19. Install the interrupt bin [A]. Then starting from bottom to top, install the other bins [B] as shown.

Note: Make sure that the bins lock in place when they are installed.

20. Peel off the panel cover [C] at the left end of the operation panel.

21. Install the sorter/stack key top [D] (copier accessory) and stick down the sorter/stack key cover [E] (copier accessory).

22. Set SP 71-2 to enable the sorter. (Refer to the copier installation procedure for SP accessing.)

23. Check the sorter's operation.

9. SERVICE TABLES

1. LEDs

The 3 LEDs on the sorter main board indicate signals as follows:

LED NO.	Lights when sensor below is activated.
LED 100	Jam Sensor Upper (Photo Tr)
LED 101	Inlet Sensor
LED 102	Jam Sensor Lower (LED)

2. Dip Switch

The dip switch on the sorter main board has three functions as follows:

DIP SW				MODE
1	2	3	4	
1	0	0	1	Free Run
1	0	0	0	Paper Transport Test (For paper shorter than 300 mm)
1	1	0	0	Paper Transport Test (For paper shorter than 300 mm)

1: ON 0: OFF

Note: When using the paper transport test mode, SP71 must be set to “0”.

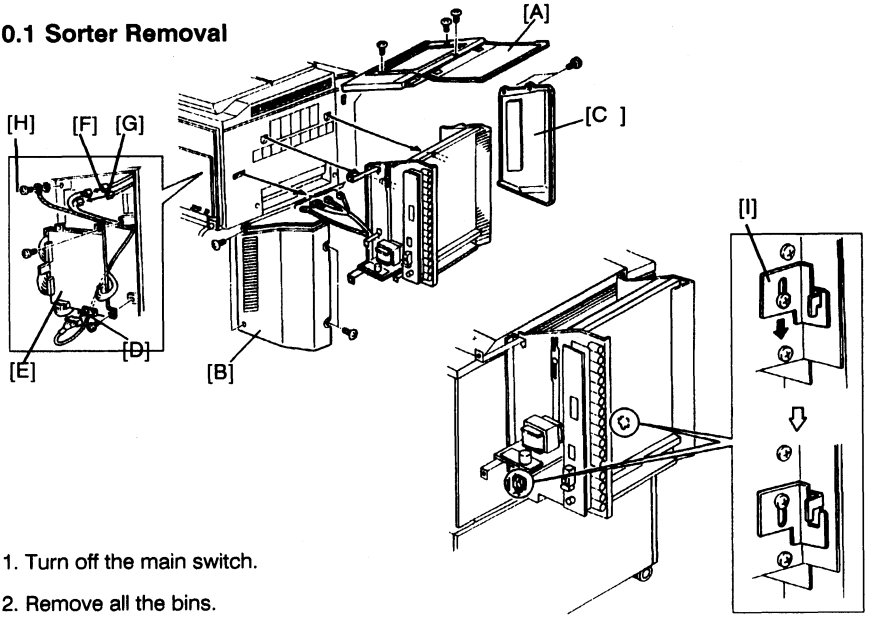
3. Service Program Mode

Three sorter functions can be accessed from the copier by using the SP mode. (Refer to the copier manual's "SERVICE PROGRAM MODE OPERATION" for the SP access procedure.)

Mode No.	Function	Date	Factory Setting	Comments
28: Sort Priority	Sort Mode is automatically selected when more than 1 original is set on the DF table and the entered copy quantity is from 2 to 15.	0: Normal 1: Sort	0	Sorter and DF must be installed on the machine.
71: Sorter/Finisher Operation	Enables sorter or finisher operation.	0: NO 1: S20 2: S15 3: F.H	0	S20 = Midi sorter S15 = 15 bin sorter F.H = Finisher
76: Sorter Bin Capacity	Stops copying at the stack and sort mode bin capacity limit. Indicates the maximum entry number (40) on the guidance display in stack mode and sort modes.	0: No limit 1: Limit	0	Limit = 50 sheets/bin in sort mode Limit = 40 sheets/bin in stack mode.

10. REPLACEMENT AND ADJUSTMENT

10.1 Sorter Removal



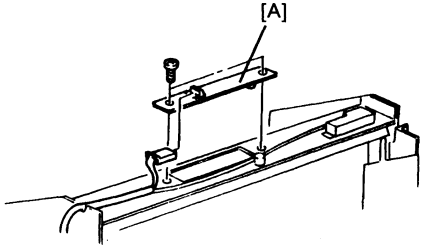
1. Turn off the main switch.
2. Remove all the bins.
3. Remove the rear cover of the copier (4 screws).
4. Open the sorter cover and remove the upper cover [A] of the sorter (3 screws).
5. Remove the front [B] and rear covers [C] of the sorter (6 screws).
6. Remove the copier main board shielding plate (2 screws).
7. Disconnect the sorter harness from CN108 [D] on the copier main board [E].
8. Swing the copier main board to the left (2 screws) and disconnect the red 2P connector [F] and the white 4P connector [G].
9. Remove the ground wire [H] from the copier (1 screw).
10. Loosen the screws (front and rear, one each) securing the fixing brackets [I], and slide the brackets down.
11. Remove the sorter from the copier.

10.2 Inlet sensor Replacement

1. Turn off the main switch.
2. Remove the sorter from the copier. (See Sorter Removal.)
3. Disconnect the harness from the inlet sensor board installed under the lower relay guide plate [A].
4. Remove the inlet sensor bracket [B] with the inlet sensor [C] (2 screws).
5. Remove the inlet sensor from the bracket.

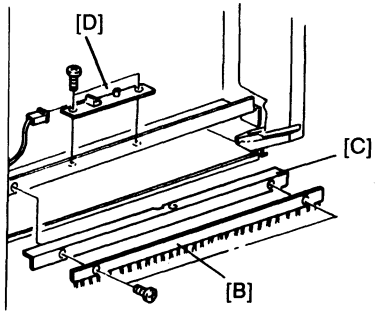
10.3 Jam Sensor Replacement

***Upper Jam Sensor (Photo-transistor)**



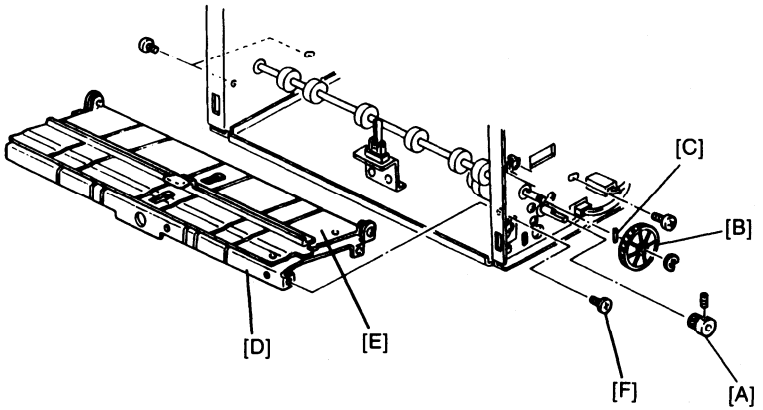
1. Turn off the main switch.
2. Open the sorter cover and remove the upper cover (3 screws).
3. Disconnect the harness from the upper jam sensor board [A].
4. Remove the upper jam sensor board (2 screws).

***Lower Jam Sensor (LED)**



1. Turn off the main switch.
2. Remove the interrupt bin and the 15th bin.
3. Remove the antistatic brush [B] and the sensor cover [C] (2 screws).
4. Disconnect the harness from the lower jam sensor board [D].
5. Remove the lower jam sensor board (2 screws).

10.4 Sponge Roller Replacement

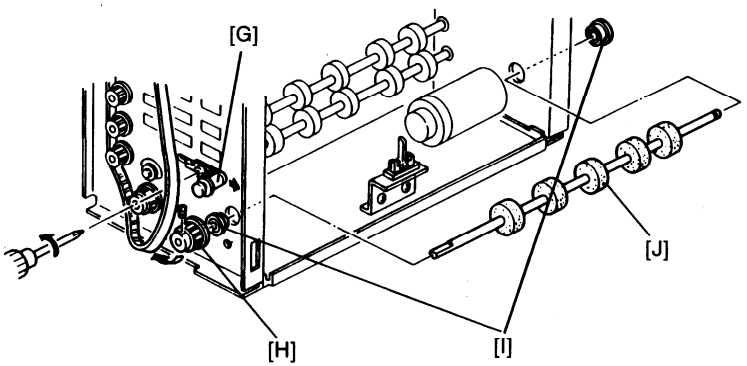


1. Turn off the main switch.
2. Remove the sorter from the copier. (See Sorter Removal.)
3. From the sorter rear side, remove the motor drive pulley (1 Allen screw); then, remove the gear [B] of the sponge roller shaft (1 E-ring) and the parallel pin [C].

Note: Be sure not to lower the parallel pin.

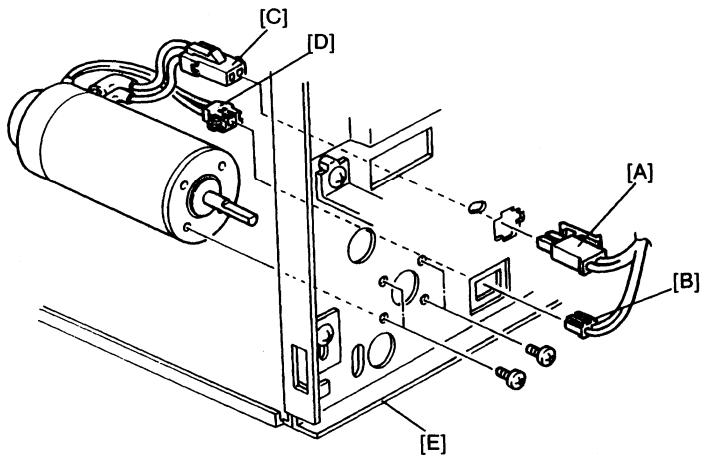
4. Remove the lower guide plate [D] with the upper guide plate [E] (2 screws each from the front and rear sides).

Note:
- Be sure not to damage the inlet sensor when removing the guide plate.
- One of the rear side screws is a flat head screw [F].



5. From the sorter front side, release the belt tightener bracket [G] (1 screw).
6. Remove the sponge roller drive pulley [H] (1 Allen screw).
7. Remove the roller bearings [I] from the front and the rear of the roller shaft.
8. Replace the sponge roller [J].

10.5 DC Motor Replacement



1. Turn off the main switch.
2. Remove the lower guide plate with the upper guide plate. (See Sponge Roller Replacement steps 1 to 4.)
3. Disconnect the main board motor harness [A] and FG harness [B], then remove the motor harness [C] and FG harness [D] from the rear side plate [E].
4. Remove the dc motor from the rear side plate (4 screws).

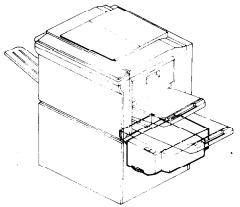
RT16

(5897)

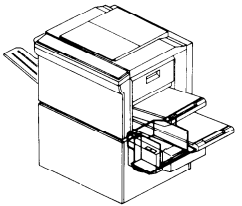
RT16

Location of Unit 3
1. Exterior (5897) 4
2. Paper Stock Section (5897) 6
3. Drive Section (5897) 8
4. Tray Control Board (5897) 10
5. Harness Layout (5897) 12
6. Main DC Harness (5897) 14
7. Motor Harness (5897) 16
8. Tray DC Harness (5897) 18
9. Decal (5897) 20
Parts Index 23

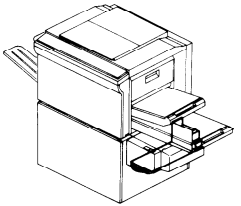
1. EXTERIOR



2. PAPER STOCK SECTION

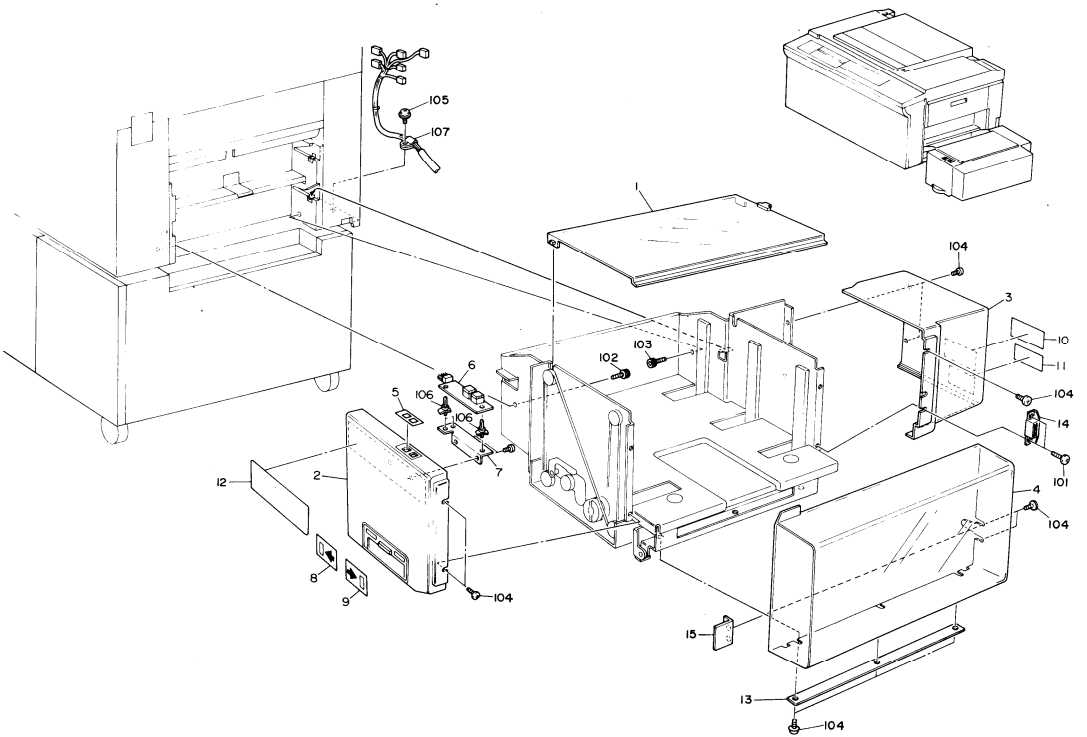


3. DRIVE SECTION



1. EXTERIOR (5897)

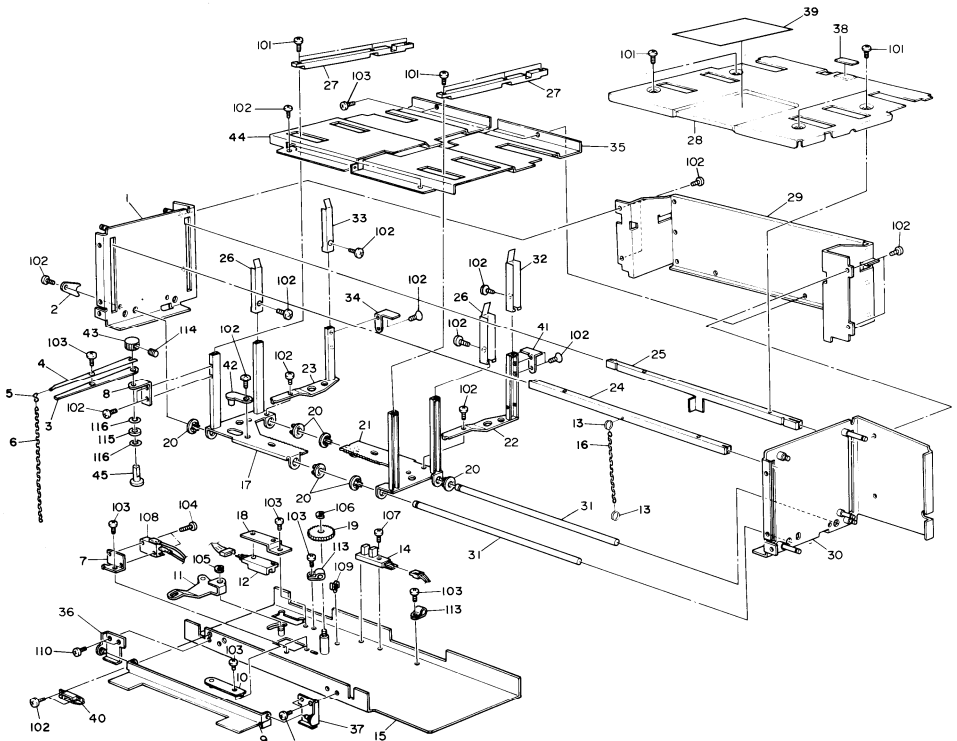
August 31, '89



1. EXTERIOR (5897)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A912 2621	Top Cover	1
2	A912 2591	Front Cover	1
3	A912 2592	Rear Cover	1
4	A912 2631	Side Cover	1
5	A912 2596	Operation Panel Key	1
6	A912 5010	Operation Board	1
7	5897 1272	Operation Board Mounting Bracket	1
8	A912 2594	Decal - Increase Size	1
9	A912 2595	Decal - Decrease Size	1
10	5442 1372	Decal - Power Source - 220V	1
11	5446 8905	Decal - English , French - 115V	1
11	5446 8906	Decal - English , German - 220V	1
12	5897 1282	Decal - Operater Instruction	1
13	5925 2331	Holder - Side Cover	1
14	5054 0536	Magnet Catch Ass'y	1
15	5925 2334	Magnet Catch Plate	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0314 0080W	Philips Pan Head Screw - M4x8	
102	0594 0120W	Hexagon Bolt - M4x12	
103	0594 0220W	Hexagon Bolt - M4x22	
104	0802 5094	Tapping Screw - M4x8	
105	0964 4008W	Tapping Screw With Flat Washer - M4x8	
106	1102 0895	Nylon Stud	
107	1105 0011	Nylon Clip - 8N	

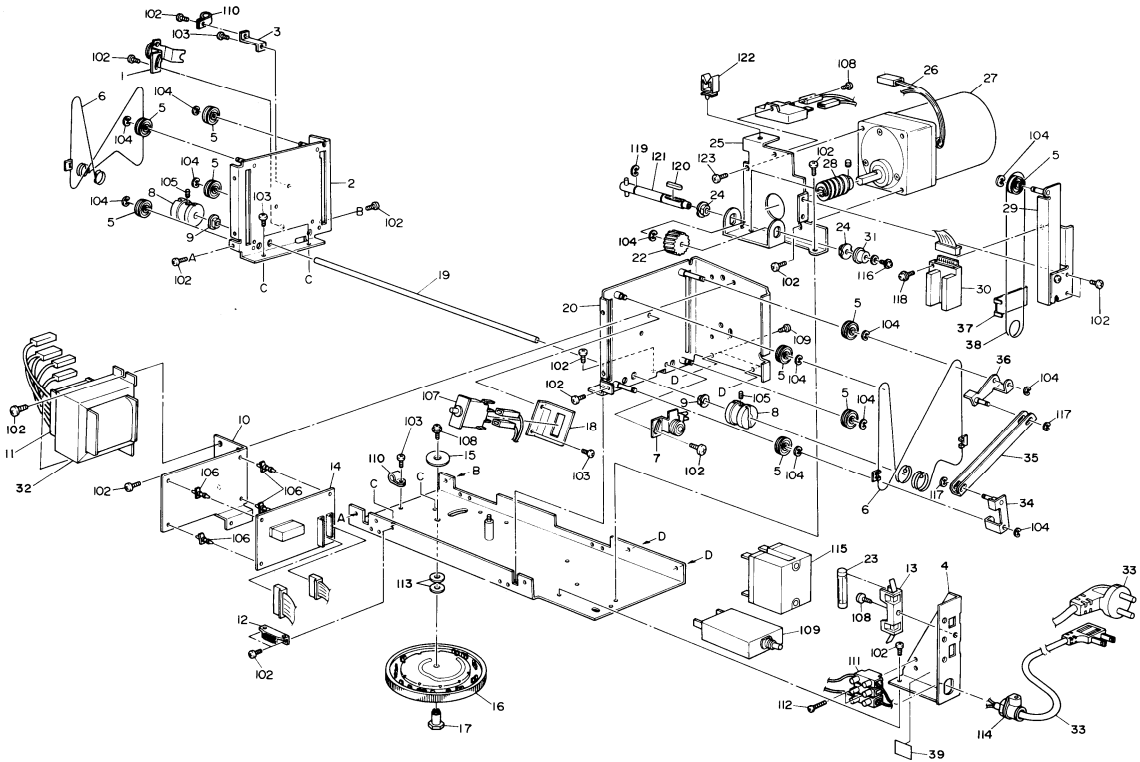

101
27
103
101
27
102
44
35
39
38
101
101
28
102
29
102
1
33
102
102
26
102
102
32
102
2
34
102
26
43
114
102
41
102
103
25
4
42
102
23
24
5
8
102
102
3
116
20
20
21
13
6
115
22
16
116
20
45
17
20
31
13
103
104
103
106
107
103
108
18
19
7
105
113
14
12
109
11
103
113
36
110
103
10
102
40
9
110
37
15
30
31

2. PAPER STOCK SECTION (5897)

Index No.	Part No.	Description	Q'ty Per Assembly
1	5925 2211	Front Side Plate	1
2	5925 2255	Side Guide Stopper	1
3	5897 1485	Stopper Bar	1
4	5897 1486	Spring Plate - Stopper Bar	1
5	5897 1488	Hook	1
6	5897 1490	Stopper Chain	1
7	5897 1493	Microswitch Mounting Bracket	1
8	5897 1487	Stopper Bar Mounting Bracket	1
9	5925 2233	Side Cover Plate	1
10	5897 4477	Leaf Spring	1
11	5897 1477	Size Lever	1
12	5205 5253	Photointerruptor Pack	1
13	5925 2259	Hook	2
14	5205 5250	LED Sensor - Type S	1
15	5897 4101	Bottom Plate	1
16	5925 2258	Stopper Chain	1
17	5897 4451	Front Side Guide	1
18	5897 1496	Sensor Mounting Bracket	1
19	5443 2657	Gear - 28T	1
20	5897 1455	Bushing	6
21	5897 4457	Rear Side Guide	1
22	A912 2641	Rear Guide Post	1
23	A912 2640	Front Guide Post	1
24	5897 1372	Right Lift Rod	1
25	5925 2257	Left Lift Stay	1
26	A912 2648	Spring Plate - Side Post	2
27	A912 2573	Lift Stay	2
28	5897 4262	Tray Bottom Plate	1
29	5897 1129	Left Cover	1
30	5925 2218	Rear Side Plate	1
31	5925 2249	Side Guide Shaft	2
32	A912 3646	Spring Plate - Rear Side Post	1
33	A912 3647	Spring Plate - Front Side Post	1
34	A912 2575	Front Paper Guide	1
35	A912 3588	Rear Inner Cover	1
36	5925 2203	Front Bracket	1
37	5925 2204	Rear Bracket	1
38	A421 2543	Friction Pad - B	1
39	A912 2582	Decal - Paper Size	1
40	5054 0536	Magnet Catch Ass'y	1
41	A912 2576	Rear Paper Guide	1
42	5897 4153	Bracket - Size Shaft	1
43	5897 1482	Stopper Bar Knob	1
44	A912 3587	Front Inner Cover	1
45	5897 1489	Stopper Bar Mounting Stud	1
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0434 0060W	Tapping Screw - M4x6	
103	0314 0040W	Philips Pan Head Screw - M4x4	
104	0313 0120W	Philips Pan Head Screw - M3x12	
105	0720 0060E	Retaining Ring - M6	
106	0704 0040C	Toothed Washer - M4	
107	0314 0100W	Philips Pan Head Screw - M4x10	
108	1204 0192	Microswitch - UL	
109	1105 0106	Harness Clamp	
110	0434 0080W	Tapping Screw - M4x8	
111	0313 0200W	Philips Pan Head Screw - M3x20	
112	0720 0040E	Retaining Ring - M4	
113	1105 0008	Nylon Clip - 2N	
114	0555 0050E	Hexagon Headless Set Screw - M5x5	
115	0807 3045	Washer	
116	0807 7071	Flat Washer - M11	

3. DRIVE SECTION (5897)

August 31, '89



3. DRIVE SECTION (5897)

Index No.	Part No.	Description	Q'ty Per Assembly
1	5925 2251	Front Wire Tightener	1
2	5925 2211	Front Side Plate	1
3	5897 1125	Nylon Clamp Stay	1
4	5925 2266	Power Cord Bracket	1
5	5446 2620	Idler Pulley - 20	8
6	5925 2241	Drive Wire	2
7	5925 2253	Rear Wire Tightener	1
8	5925 2246	Drive Pulley	2
9	5053 0419	Bushing - 10mm	2
10	5925 2265	P.C.B Bracket	1
11	5897 5520	Transformer - 115V,220V,240V,30W	1
12	5054 0536	Magnet Catch Ass'y	1
13	1104 0323	Fuse Holder	1
14	A912 5103	Tray Control Board	1
15	5897 1472	Washer - 4.5x24x2mm	1
16	A912 2585	Paper Size Dial	1
17	5925 2235	Dial Shaft	1
18	5897 1126	Safety Switch Bracket	1
19	5897 1373	Drive Shaft	1
20	5925 2218	Rear Side Plate	1
21	5897 1353	Drive Shaft	1
22	5446 2702	Gear - 22T	1
23	1107 0271	Fuse - 3A	1
24	5053 0223	Bushing - 8mm	2
25	5897 1351	Drive Motor Bracket	1
26	5897 5047	Motor Harness - 115V	1
26	5897 5048	Motor Harness - 220V	1
27	5446 5411	Tray Drive Motor - AC7/8W/115V	1
28	5897 1352	Worm Gear - M5x5	1
29	5897 1355	Paper Volume Detection Guide	1
30	5205 5253	Photointerruptor Pack	1
31	5897 1361	Pulley	1
32	A912 2555	Trans Cover	1
33	6769 7930	Power Supply Cord - 115V	1
33	5408 7968	Power Supply Cord - 220V	1

Index No.	Part No.	Description	Q'ty Per Assembly
34	5897 1277	Lower Actuator Lever	1
35	5897 1279	Safety Switch Actuator	1
36	5897 1274	Upper Actuator Lever	1
37	5897 1359	Shutter - Paper Volume Sensor	1
38	1005 0016	String	1
39	5403 4335	Decal - Terminal - 115V	1
39	5447 4980	Decal - Terminal - 220V	1
101	0704 0040C	Toothed Washer - M4	
102	0434 0060W	Tapping Screw - M4x6	
103	0314 0040W	Philips Pan Head Screw - M4x4	
104	0720 0040E	Retaining Ring - M4	
105	0555 0050E	Hexagon Headless Set Screw - M5x5	
106	1105 0163	Nylon Stud	
107	1204 1280	Push Switch	
108	0314 0060W	Philips Pan Head Screw - M4x6	
109	1107 0487	Circuit Breaker - 115V	
110	1105 0008	Nylon Clip - 2N	
111	1101 0359	Terminal - 3P	
112	0313 0140W	Philips Pan Head Screw - M3x14	
113	0807 5009	Washer - 8.1x14x0.1mm	
114	1106 0442	Cord Clamp	
115	1208 1047	Power Relay	
116	0951 3005	Philips Screw With Flat Washer - M3x5	
117	0720 0030E	Retaining Ring - M3	
118	0314 0100W	Philips Pan Head Screw - M4x10	
119	0720 0060E	Retaining Ring - M6	
120	0315 0080W	Philips Pan Head Screw - M5x8	
121	0930 0400	Parallel Key	
122	1105 0108	Nylon Clip	

SSR

SYMBOL NO.	INDEX NO.
SSR100	107
SSR101	107

CONNECTER

SYMBOL NO.	INDEX NO.
CN100	105
CN101	104
CN102	102
CN103	103
CN104	101
CN105	106

IC

SYMBOL NO.	INDEX NO.
IC100	115
IC101	113
IC102	111
IC103	112
IC104	111
IC105	114
IC106	116

RESISTOR

SYMBOL NO.	INDEX NO.
R100	123
R101	124
R102	123
R103	129
R104	124
R105	122
R106	123
R107	128
R108	123
R109	122

SYMBOL NO.	INDEX NO.
R110	122
R111	123
R112	123
R113	123
R114	123
R115	122
R116	124
R117	128
R118	125
R119	123

SYMBOL NO.	INDEX NO.
R120	122
R121	126
R122	127
R123	124
R124	126
R125	122
R126	124
R127	128
R128	126
R130	123

SYMBOL NO.	INDEX NO.
R131	122
R132	126
R133	122
R134	122
R135	126
R136	122
R138	124

DIODE

SYMBOL NO.	INDEX NO.
D100	110
D101	110
D102	110
D103	110
D104	110
D105	110
D106	110
D107	110

TRANSISTOR

SYMBOL NO.	INDEX NO.
Q100	108
Q101	109
Q102	108
Q103	109

CAPACITOR

SYMBOL NO.	INDEX NO.
C100	119
C101	120
C102	118
C103	117
C104	117
C105	117
C106	118
C107	120
C108	120
C109	120

SYMBOL NO.	INDEX NO.
C110	121
C111	121
C112	120
C113	120
C114	120
C115	120
C116	120

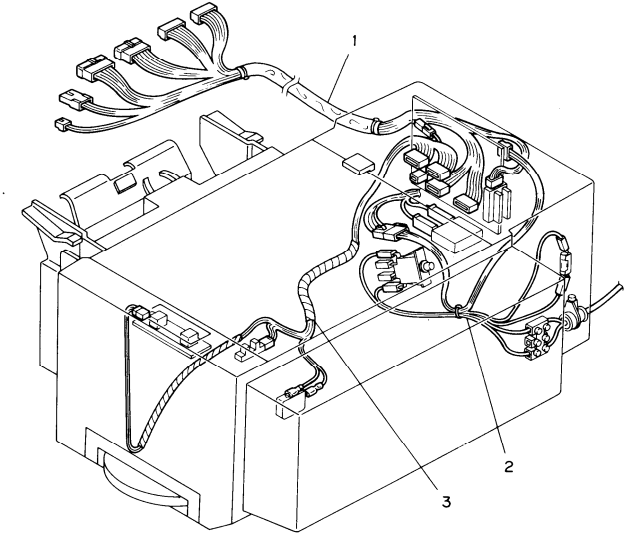
4. TRAY CONTROL BOARD (5897)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A912 5103	Tray Control Board	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1103 1247	Connector - 3P	
102	1103 1729	Connector - 7P	
103	1103 1730	Connector - 8P	
104	1103 1739	Connector - 3P	
105	1103 1743	Connector - 7P	
106	1103 1757	Connector - 7P	
107	1208 1047	Solid State Relay - 240V/3A	
108	1400 0072	Transistor - 2SC372Y	
109	1400 0135	Transistor - 2SA1015Y	
110	1401 0825	Diode - 1SS176	
111	1407 0520	IC - HD74LS00	
112	1407 0622	IC - HD74LS10P	
113	1407 0981	IC - TD62503P	
114	1407 2028	IC - SN74LS06N	
115	1408 0124	IC - LM555CN	
116	1408 0412	IC - 7705CP	
117	1604 1363	Capacitor - 10µF 25V	
118	1604 1366	Capacitor - 47µF 25V	
119	1604 1378	Capacitor - 1MF 50V	
120	1606 1336	Capacitor - 1000øF 50V	
121	1606 1458	Capacitor - 0.1µF 50V	
122	1611 4101V	Resistor - 1KOHM 14/V ±5%	
123	1611 4102V	Resistor - 1KOHM 1/4W ±5%	
124	1611 4103V	Resistor - 10KOHM 1/4V ±5%	
125	1611 4104V	Resistor - 100KOHM 1/4V ±5%	
126	1611 4471V	Resistor - 470OHM 1/4W ±5%	
127	1611 4472V	Resistor - 4.7KOHM 1/4W ±5%	
128	1611 4562V	Resistor - 5.6KOHM 1/4W ±5%	
129	1611 4564V	Resistor - 560KOHM 1/4W	

5. HARNESS LAYOUT (5897)

August 31, '89

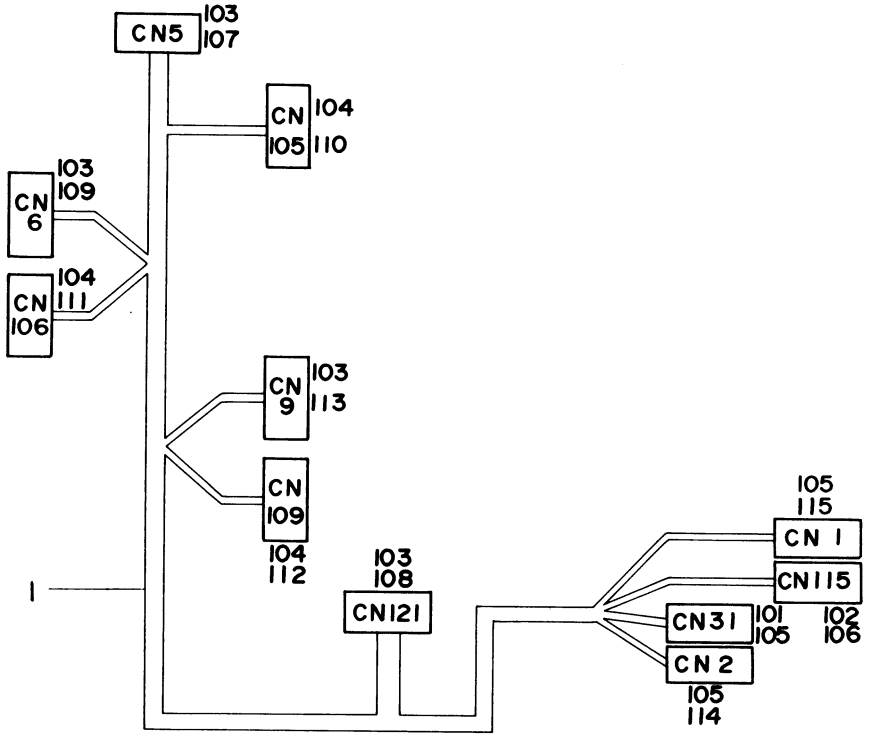


5. HARNESS LAYOUT (5897)

Index No.	Part No.	Description	Q'ty Per Assembly
1	5897 5042	Main DC Harness	1
2	5897 5047	Motor Harness - 115V	1
2	5897 5048	Motor Harness - 220V	1
3	5897 5043	Tray DC Harness	1

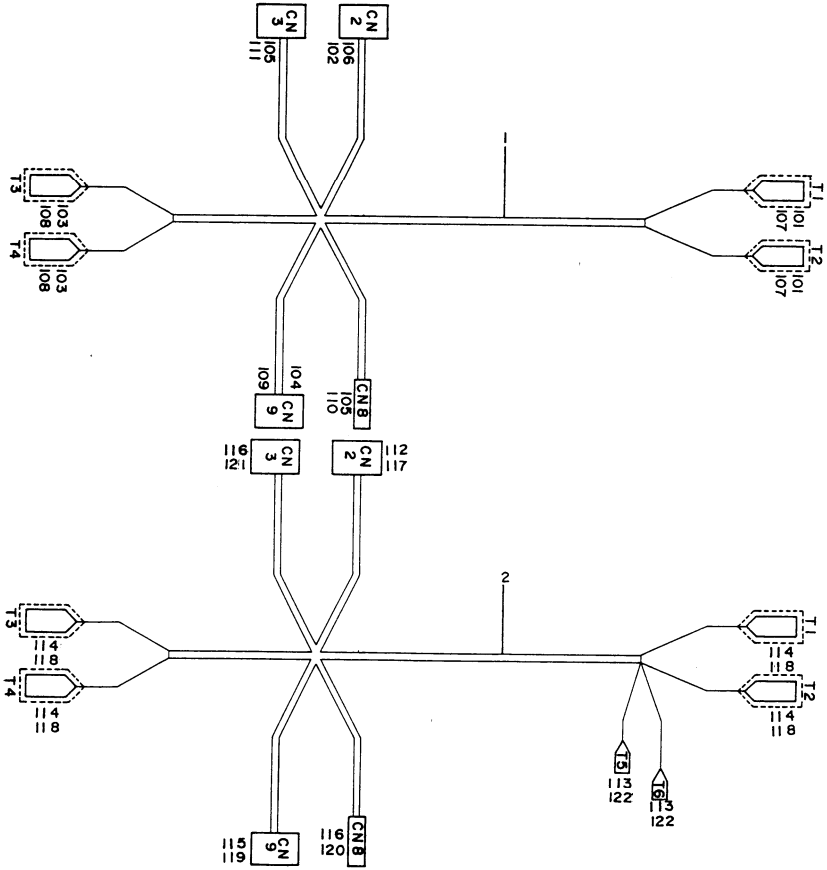
Index No.	Part No.	Description	Q'ty Per Assembly

6. MAIN DC HARNESS (5897)



6. MAIN DC HARNESS (5897)

Index No.	Part No.	Description	Q'ty Per Assembly
1	5897 5042	Main DC Harness	1
101	1102 1943	Receptacle Housing	
102	1100 1238	Pin - Mate-N-Lock	
103	1100 1249	Receptacle Terminal	
104	1100 1253	Pin - Mate-N-Lock	
105	1100 1327	Contact	
106	1102 1506	Connector - 1P	
107	1102 1621	Receptacle Housing - 3P	
108	1102 1623	Receptacle Housing - 7P	
109	1102 1625	Receptacle Housing - 10P	
110	1102 1661	Receptacle Housing - 4P	
111	1102 1778	Connector - 4P	
112	1102 1779	Connector - 12P	
113	1102 1784	Connector - 12P	
114	1102 1925	Connector - 3P	
115	1102 1929	Connector - 7P	


CN 3
105
111
CN 2
106
102
T3
103
108
T4
103
108
T1
101
107
T2
101
107
1
109
104
CN 9
CN 8
105
110
116
121
CN 3
CN 2
112
117
2
T3
114
118
T4
114
118
T1
114
118
T2
114
118
T5
113
122
T6
113
122
115
119
CN 9
116
120
CN 8

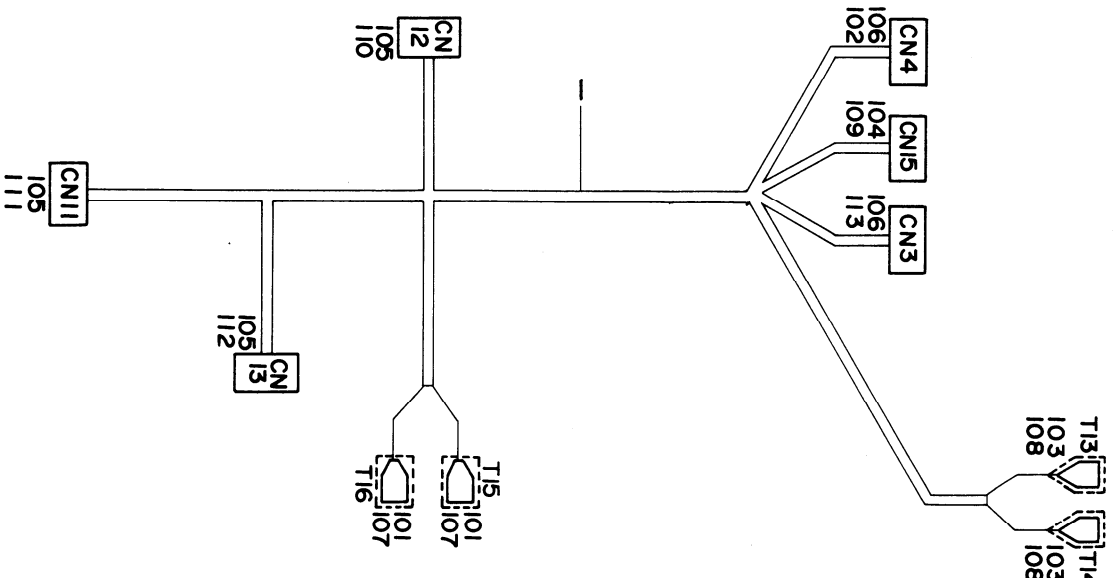
7. MOTOR HARNESS (5897)

Index No.	Part No.	Description	Q'ty Per Assembly
1	5897 5047	Motor Harness - 115V	1
2	5897 5048	Motor Harness - 220V	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 0277	Fastening Receptacle	
102	1102 1815	Connector - 3P	
103	1100 1172	Fastening Receptacle	
104	1100 1239	Pin - Mate-N-Lock	
105	1100 1241	Socket - Mate-N-Lock	
106	1100 1247	Terminal	
107	1100 0796	Receptacle Housing	
108	1102 1404	Receptacle Housing	
109	1102 1507	Connector - 2P	
110	1102 1514	Connector - 1P	
111	1102 1516	Connector - 3P	
112	1102 1815	Connector - 3P	
113	1100 0885	Fastening Receptacle	
114	1100 1172	Fastening Receptacle	
115	1100 1239	Pin - Mate-N-Lock	
116	1100 1241	Socket - Mate-N-Lock	
117	1100 1247	Terminal	
118	1102 1404	Receptacle Housing	
119	1102 1507	Connector - 2P	
120	1102 1514	Connector - 1P	
121	1102 1516	Connector - 3P	
122	1102 1745	Receptacle Sleeve	

8. TRAY DC HARNESS (5897)

August 31, '89

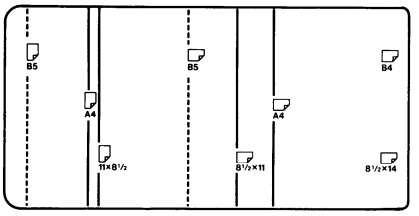


8. TRAY DC HARNESS (5897)

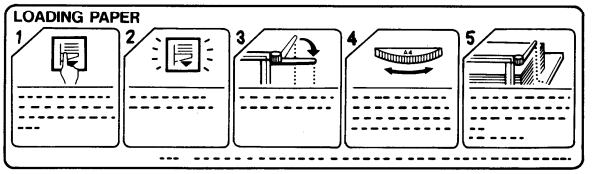
Index No.	Part No.	Description	Q'ty Per Assembly
1	5897 5043	Tray DC Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 0277	Fastening Receptacle	
102	1102 1916	Connector - 8P	
103	1100 1172	Fastening Receptacle	
104	1100 1240	Socket - Mate-N-Lock	
105	1100 1249	Receptacle Terminal	
106	1100 1327	Contact	
107	1102 0796	Connecting Sleeve 3.0mm - 220V	
108	1102 1404	Receptacle Housing	
109	1102 1514	Connector - 1P	
110	1102 1620	Connector - 3P	
111	1102 1621	Receptacle Housing - 3P	
112	1102 1623	Receptacle Housing - 7P	
113	1102 1915	Connector - 7P	

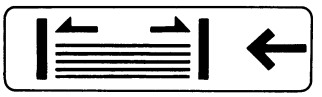
1



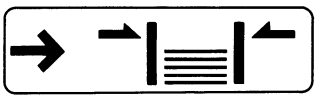
2



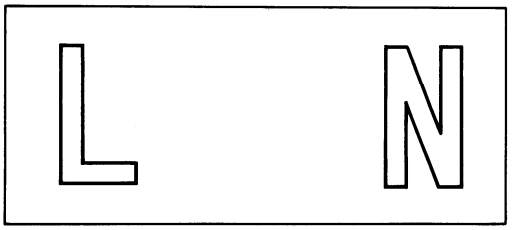
3



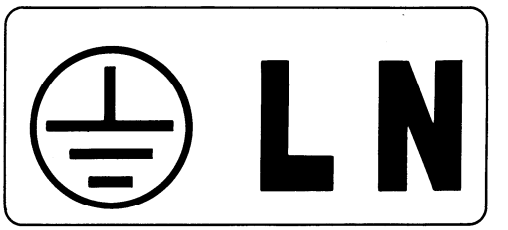
4



5



6



7

CAUTION

THIS UNIT HAS MORE THAN ONE POWER-SUPPLY CORD. DISCONNECT TWO POWER-SUPPLY. CORDS BEFORE SERVICING TO AVOID ELECTRICAL SHOCK.

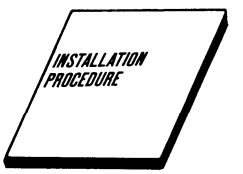
ACHTUNG

VOR ENTFERNEN DER RÜCKWAND ALLE NETZSTECKER ZIEHEN.

8

Attention: This machine is set for 220V/50Hz.
Achtung : Dieses Gerät ist auf 220V/50Hz eingestellt.

9



9. DECAL (5897)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A912 2582	Decal - Paper Size	1
2	5897 1282	Decal - Operater Instruction	1
3	A912 2594	Decal - Increase Size	1
4	A912 2595	Decal - Decrease Size	1
5	5403 4335	Decal - Terminal - 115V	1
6	5447 4980	Decal - Terminal - 220V	1
7	5446 8905	Decal - English , French - 115V	1
7	5446 8906	Decal - English , German - 220V	1
8	5442 1372	Decal - Power Source - 220V	1
9	5897 8610	Installation Procedure - English	1
9	5897 8615	Installation Procedure - 5 Language	1

Index No.	Part No.	Description	Q'ty Per Assembly

PARTS INDEX

Parts No.	Description	Page and Index No.
5897 1125	Nylon Clamp Stay	9-3
5897 1126	Safety Switch Bracket	9-18
5897 1129	Left Cover	7-29
5897 1272	Operation Board Mounting Bracket	5-7
5897 1274	Upper Actuator Lever	9-36
5897 1277	Lower Actuator Lever	9-34
5897 1279	Safety Switch Actuator	9-35
5897 1282	Decal – Operater Instruction	21-2
5897 1282	Decal - Operater Instruction	5-12
5897 1351	Drive Motor Bracket	9-25
5897 1352	Worm Gear - M5x5	9-28
5897 1353	Drive Shaft	9-21
5897 1355	Paper Volume Detection Guide	9-29
5897 1359	Shutter - Paper Volume Sensor	9-37
5897 1361	Pulley	9-31
5897 1372	Right Lift Rod	7-24
5897 1373	Drive Shaft	9-19
5897 1455	Bushing	7-20
5897 1472	Washer - 4.5x24x2mm	9-15
5897 1477	Size Lever	7-11
5897 1482	Stopper Bar Knob	7-43
5897 1485	Stopper Bar	7-3
5897 1486	Spring Plate - Stopper Bar	7-4
5897 1487	Stopper Bar Mounting Bracket	7-8
5897 1488	Hook	7-5
5897 1489	Stopper Bar Mounting Stud	7-45
5897 1490	Stopper Chain	7-6
5897 1493	Microswitch Mounting Bracket	7-7
5897 1496	Sensor Mounting Bracket	7-18
5897 4101	Bottom Plate	7-15
5897 4153	Bracket - Size Shaft	7-42
5897 4262	Tray Bottom Plate	7-28
5897 4451	Front Side Guide	7-17
5897 4457	Rear Side Guide	7-21
5897 4477	Leaf Spring	7-10

Parts No.	Description	Page and Index No.
5897 5042	Main DC Harness	13-1
5897 5042	Main DC Harness	15-1
5897 5043	Tray DC Harness	13-3
5897 5043	Tray DC Harness	19-1
5897 5047	Motor Harness - 115V	13-2
5897 5047	Motor Harness - 115V	17-1
5897 5047	Motor Harness - 115V	9-26
5897 5048	Motor Harness - 220V	13-2
5897 5048	Motor Harness - 220V	17-2
5897 5048	Motor Harness - 220V	9-26
5897 5520	Transformer - 115V,220V,240V,30W	9-11
5897 8610	Installation Procedure - English	21-9
5897 8615	Installation Procedure - 5 Language	21-9

Parts No.	Description	Page and Index No.
A421 2543	Friction Pad - B	7-38
A912 2555	Trans Cover	9-32
A912 2573	Lift Stay	7-27
A912 2575	Front Paper Guide	7-34
A912 2576	Rear Paper Guide	7-41
A912 2582	Decal - Paper Size	21-1
A912 2582	Decal - Paper Size	7-39
A912 2585	Paper Size Dial	9-16
A912 2591	Front Cover	5-2
A912 2592	Rear Cover	5-3
A912 2594	Decal - Increase Size	21-3
A912 2594	Decal - Increase Size	5-8
A912 2595	Decal - Decrease Size	21-4
A912 2595	Decal - Decrease Size	5-9
A912 2596	Operation Panel Key	5-5
A912 2621	Top Cover	5-1
A912 2631	Side Cover	5-4
A912 2640	Front Guide Post	7-23
A912 2641	Rear Guide Post	7-22
A912 2648	Spring Plate - Side Post	7-26
A912 3587	Front Inner Cover	7-44
A912 3588	Rear Inner Cover	7-35
A912 3646	Spring Plate - Rear Side Post	7-32
A912 3647	Spring Plate - Front Side Post	7-33
A912 5010	Operation Board	5-6
A912 5103	Tray Control Board	11-*
A912 5103	Tray Control Board	9-14
5053 0223	Bushing - 8mm	9-24
5053 0419	Bushing - 10mm	9-9
5054 0536	Magnet Catch Ass'y	5-14
5054 0536	Magnet Catch Ass'y	7-40
5054 0536	Magnet Catch Ass'y	9-12
5205 5250	LED Sensor - Type S	7-14
5205 5253	Photointerruptor Pack	7-12
5205 5253	Photointerruptor Pack	9-30

Parts No.	Description	Page and Index No.
5403 4335	Decal - Terminal - 115V	21-5
5403 4335	Decal - Terminal - 115V	9-39
5408 7968	Power Supply Cord - 220V	9-33
5442 1372	Decal - Power Source - 220V	21-8
5442 1372	Decal - Power Source - 220V	5-10
5443 2657	Gear - 28T	7-19
5446 2620	Idler Pulley - 20	9-5
5446 2702	Gear - 22T	9-22
5446 5411	Tray Drive Motor - AC7/8W/115V	9-27
5446 8905	Decal - English , French - 115V	21-7
5446 8905	Decal - English , French - 115V	5-11
5446 8906	Decal - English , German - 220V	21-7
5446 8906	Decal - English , German - 220V	5-11
5447 4980	Decal - Terminal - 220V	21-6
5447 4980	Decal - Terminal - 220V	9-39
5925 2203	Front Bracket	7-36
5925 2204	Rear Bracket	7-37
5925 2211	Front Side Plate	7-1
5925 2211	Front Side Plate	9-2
5925 2218	Rear Side Plate	7-30
5925 2218	Rear Side Plate	9-20
5925 2233	Side Cover Plate	7-9
5925 2235	Dial Shaft	9-17
5925 2241	Drive Wire	9-6
5925 2246	Drive Pulley	9-8
5925 2249	Side Guide Shaft	7-31
5925 2251	Front Wire Tightener	9-1
5925 2253	Rear Wire Tightener	9-7
5925 2255	Side Guide Stopper	7-2
5925 2257	Left Lift Stay	7-25
5925 2258	Stopper Chain	7-16
5925 2259	Hook	7-13
5925 2265	P.C.B Bracket	9-10
5925 2266	Power Cord Bracket	9-4
5925 2331	Holder - Side Cover	5-13

Parts No.	Description	Page and Index No.
5925 2334	Magnet Catch Plate	5-15
6769 7930	Power Supply Cord – 115V	9-33

Parts No.	Description	Page and Index No.
0313 0060W	Philips Pan Head Screw - M3x6	7-101
0313 0120W	Philips Pan Head Screw - M3x12	7-104
0313 0140W	Philips Pan Head Screw - M3x14	9-112
0313 0200W	Philips Pan Head Screw - M3x20	7-111
0314 0040W	Philips Pan Head Screw - M4x4	7-103
0314 0040W	Philips Pan Head Screw - M4x4	9-103
0314 0060W	Philips Pan Head Screw - M4x6	9-108
0314 0080W	Philips Pan Head Screw - M4x8	5-101
0314 0100W	Philips Pan Head Screw - M4x10	7-107
0314 0100W	Philips Pan Head Screw - M4x10	9-118
0315 0080W	Philips Pan Head Screw - M5x8	9-120
0434 0060W	Tapping Screw - M4x6	7-102
0434 0060W	Tapping Screw - M4x6	9-102
0434 0080W	Tapping Screw - M4x8	7-110
0555 0050E	Hexagon Headless Set Screw - M5x5	7-114
0555 0050E	Hexagon Headless Set Screw - M5x5	9-105
0594 0120W	Hexagon Bolt - M4x12	5-102
0594 0220W	Hexagon Bolt - M4x22	5-103
0704 0040C	Toothed Washer - M4	7-106
0704 0040C	Toothed Washer - M4	9-101
0720 0030E	Retaining Ring - M3	9-117
0720 0040E	Retaining Ring - M4	7-112
0720 0040E	Retaining Ring - M4	9-104
0720 0060E	Retaining Ring - M6	7-105
0720 0060E	Retaining Ring - M6	9-119
0802 5094	Tapping Screw - M4x8	5-104
0807 3045	Washer	7-115
0807 5009	Washer - 8.1x14x0.1mm	9-113
0807 7071	Flat Washer - M11	7-116
0930 0400	Parallel Key	9-121
0951 3005	Philips Screw With Flat Washer - M3x5	9-116
0964 4008W	Tapping Screw With Flat Washer - M4x8	5-105
1005 0016	String	9-38
1100 0277	Fastening Receptacle	17-101
1100 0277	Fastening Receptacle	19-101

Parts No.	Description	Page and Index No.
1100 0796	Receptacle Housing	17-107
1100 0885	Fastening Receptacle	17-113
1100 1172	Fastening Receptacle	17-103
1100 1172	Fastening Receptacle	17-114
1100 1172	Fastening Receptacle	19-103
1100 1238	Pin - Mate-N-Lock	15-102
1100 1239	Pin - Mate-N-Lock	17-104
1100 1239	Pin - Mate-N-Lock	17-115
1100 1240	Socket - Mate-N-Lock	19-104
1100 1241	Socket - Mate-N-Lock	17-105
1100 1241	Socket - Mate-N-Lock	17-116
1100 1247	Terminal	17-106
1100 1247	Terminal	17-117
1100 1249	Receptacle Terminal	15-103
1100 1249	Receptacle Terminal	19-105
1100 1253	Pin - Mate-N-Lock	15-104
1100 1327	Contact	15-105
1100 1327	Contact	19-106
1101 0359	Terminal - 3P	9-111
1102 0796	Connecting Sleeve 3.0mm - 220V	19-107
1102 0895	Nylon Stud	5-106
1102 1404	Receptacle Housing	17-108
1102 1404	Receptacle Housing	17-118
1102 1404	Receptacle Housing	19-108
1102 1506	Connector - 1P	15-106
1102 1507	Connector - 2P	17-109
1102 1507	Connector - 2P	17-119
1102 1514	Connector - 1P	17-110
1102 1514	Connector - 1P	17-120
1102 1514	Connector - 1P	19-109
1102 1516	Connector - 3P	17-111
1102 1516	Connector - 3P	17-121
1102 1620	Connector - 3P	19-110
1102 1621	Receptacle Housing - 3P	15-107
1102 1621	Receptacle Housing - 3P	19-111

Parts No.	Description	Page and Index No.
1102 1623	Receptacle Housing - 7P	15-108
1102 1623	Receptacle Housing - 7P	19-112
1102 1625	Receptacle Housing - 10P	15-109
1102 1661	Receptacle Housing - 4P	15-110
1102 1745	Receptacle Sleeve	17-122
1102 1778	Connector - 4P	15-111
1102 1779	Connector - 12P	15-112
1102 1784	Connector - 12P	15-113
1102 1815	Connector - 3P	17-102
1102 1815	Connector - 3P	17-112
1102 1915	Connector - 7P	19-113
1102 1916	Connector - 8P	19-102
1102 1925	Connector - 3P	15-114
1102 1929	Connector - 7P	15-115
1102 1943	Receptacle Housing	15-101
1103 1247	Connector - 3P	11-101
1103 1729	Connector - 7P	11-102
1103 1730	Connector - 8P	11-103
1103 1739	Connector - 3P	11-104
1103 1743	Connector - 7P	11-105
1103 1757	Connector - 7P	11-106
1104 0323	Fuse Holder	9-13
1105 0008	Nylon Clip - 2N	7-113
1105 0008	Nylon Clip - 2N	9-110
1105 0011	Nylon Clip - 8N	5-107
1105 0106	Harness Clamp	7-109
1105 0108	Nylon Clip	9-122
1105 0163	Nylon Stud	9-106
1106 0442	Cord Clamp	9-114
1107 0271	Fuse - 3A	9-23
1107 0487	Circuit Breaker - 115V	9-109
1204 0192	Microswitch - UL	7-108
1204 1280	Push Switch	9-107
1208 1047	Solid State Relay - 240V/3A	11-107
1208 1047	Power Relay	9-115

Parts No.	Description	Page and Index No.
1102 1623	Receptacle Housing - 7P	15-108
1102 1623	Receptacle Housing - 7P	19-112
1102 1625	Receptacle Housing - 10P	15-109
1102 1661	Receptacle Housing - 4P	15-110
1102 1745	Receptacle Sleeve	17-122
1102 1778	Connector - 4P	15-111
1102 1779	Connector - 12P	15-112
1102 1784	Connector - 12P	15-113
1102 1815	Connector - 3P	17-102
1102 1815	Connector - 3P	17-112
1102 1915	Connector - 7P	19-113
1102 1916	Connector - 8P	19-102
1102 1925	Connector - 3P	15-114
1102 1929	Connector - 7P	15-115
1102 1943	Receptacle Housing	15-101
1103 1247	Connector - 3P	11-101
1103 1729	Connector - 7P	11-102
1103 1730	Connector - 8P	11-103
1103 1739	Connector - 3P	11-104
1103 1743	Connector - 7P	11-105
1103 1757	Connector - 7P	11-106
1104 0323	Fuse Holder	9-13
1105 0008	Nylon Clip - 2N	7-113
1105 0008	Nylon Clip - 2N	9-110
1105 0011	Nylon Clip - 8N	5-107
1105 0106	Harness Clamp	7-109
1105 0108	Nylon Clip	9-122
1105 0163	Nylon Stud	9-106
1106 0442	Cord Clamp	9-114
1107 0271	Fuse - 3A	9-23
1107 0487	Circuit Breaker - 115V	9-109
1204 0192	Microswitch - UL	7-108
1204 1280	Push Switch	9-107
1208 1047	Solid State Relay - 240V/3A	11-107
1208 1047	Power Relay	9-115

Parts No.	Description	Page and Index No.
1400 0072	Transistor - 2SC372Y	11-108
1400 0135	Transistor - 2SA1015Y	11-109
1401 0825	Diode - 1SS176	11-110
1407 0520	IC - HD74LS00	11-111
1407 0622	IC - HD74LS10P	11-112
1407 0981	IC - TD62503P	11-113
1407 2028	IC - SN74LS06N	11-114
1408 0124	IC - LM555CN	11-115
1408 0412	IC - 7705CP	11-116
1604 1363	Capacitor - 10µF 25V	11-117
1604 1366	Capacitor - 47µF 25V	11-118
1604 1378	Capacitor - 1MF 50V	11-119
1606 1336	Capacitor - 1000øF 50V	11-120
1606 1458	Capacitor - 0.1µF 50V	11-121
1611 4101V	Resistor - 1KOHM 14/V ±5%	11-122
1611 4102V	Resistor - 1KOHM 1/4W ±5%	11-123
1611 4103V	Resistor - 10KOHM 1/4V ±5%	11-124
1611 4104V	Resistor - 100KOHM 1/4V ±5%	11-125
1611 4471V	Resistor - 470OHM 1/4W ±5%	11-126
1611 4472V	Resistor - 4.7KOHM 1/4W ±5%	11-127
1611 4562V	Resistor - 5.6KOHM 1/4W ±5%	11-128
1611 4564V	Resistor - 560KOHM 1/4W	11-129

RICOH

RICOH FT5540/5550/5570
(A045/A046)

PARTS CATALOG

First Edition August 1989

RICOH COMPANY, LTD.

PARTS CATALOG

INTRODUCTION

This chapter instructs you the numbers and names of this parts on this machine.

INDEX to PARTS CATALOG

FT5540/5550/5570 (A045/A046)

PS220 (A420)

DF51 (A418)

CS2080 (A411)

CS1530 (A455)

RT16 (5897)

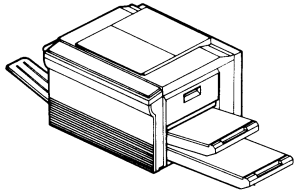
RT21 (A421)

MR20 (A952)

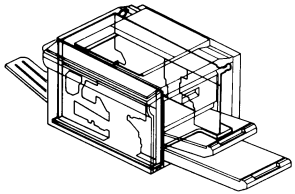
Location of Unit 3
1. Exterior 1 (A045/A046) 8
2. Exterior 2 (A045/A046) 10
3. Optics 1 (A045/A046) 12
4. Optics 2 (A045/A046) 14
5. Optics 3 (A045/A046) 16
6. Platen Cover and Cassette (A045/A046) 18
7. Paper Feed Unit 1 (A045/A046) 20
8. Paper Feed Unit 2 (A045/A046) 22
9. Duplex Section 1 (A045/A046) 24
10. Duplex Section 2 (A045/A046) 26
11. Duplex Section 3 (A045/A046) 28
12. Invertor Section 1 (A045/A046) 30
13. Invertor Section 2 (A045/A046) 32
14. Development 1 (A045/A046) 34
15. Development 2 (A045/A046) 36
16. Transfer and Separation (A045/A046) 38
17. Drum Section 1 (A045/A046) 40
18. Drum Section 2 (A045/A046) 42
19. Cleaning Unit 1 (A045/A046) 44
20. Cleaning Unit and Toner Collection (A045/A046) 46
21. Fusing Unit 1 (A045/A046) 48
22. Fusing Unit 2 (A045/A046) 50
23. Operation Panel (A045/A046) 52
24. Drive Section (A045/A046) 54
25. Electrical Section 1 (A045/A046) 56
26. Electrical Section 2 (A045/A046) 58
27. Electrical Section 3 (A045/A046) 60
28. Main Control Board (A045/A046) 62
29. Optics Board (A045/A046) 64
30. Paper Feed Control Board (A045/A046) 66
31. AC Drive Board (A045/A046) 68
32. Harness Layout Front View (A045/A046) 70
33. DC Harness (A045/A046) 72
34. AC Harness (A045/A046) 74
35. Lens Housing Harness (A045/A046) 76
36. Lens Home Sensor Harness (A045/A046) 78
37. Paper Feed Unit Harness (A045/A046) 80
38. AC Drive Board Harness (A045/A046) 82
39. Power Pack Harness (A045/A046) 84
40. Transport Unit Harness (A045/A046) 86
41. Safety Switch Harness (A045/A046) 88
42. Lift Motor Harness (A045/A046) 90
43. Fusing Unit Harness and Gate Harness (A045/A046) 92
44. Main Control Harness and DC Motor Harness (A045/A046) 94
45. Cleaner Sensor Harness and Gate Solenoid Harness (A045/A046) 96

46. Duplex Entrance Harness and Toner End Sensor Harness (A045/A046) 98
47. Duplex Stopper Solenoid Harness, Inverter Guide Entrance Harness and Led Sensor Harness (A045/A046) 100
48. Transport Sensor Harness and Home Sensor Harness (A045/A046) 102
49. Special Tool (A045/A046) 104
50. Decal and Document (A045/A046) 106
Parts Index 113

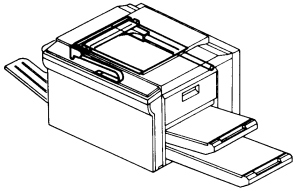
1. EXTERIOR 1



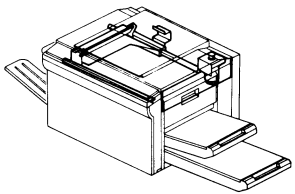
2. EXTERIOR 2



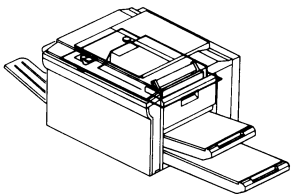
3. OPTICS 1



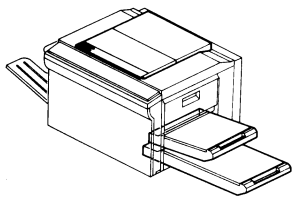
4. OPTICS 2



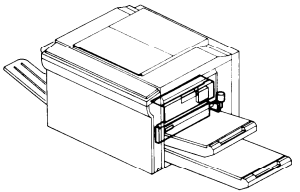
5. OPTICS 3



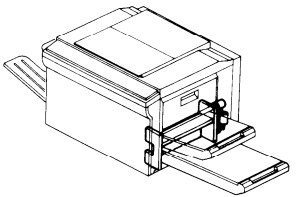
6. PLATEN COVER AND CASSETTE



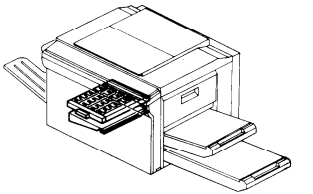
7. PAPER FEED UNIT 1



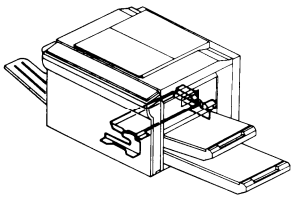
8. PAPER FEED UNIT 2



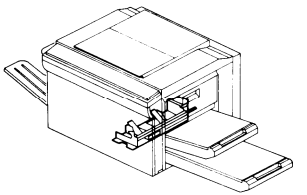
9. DUPLEX SECTION 1



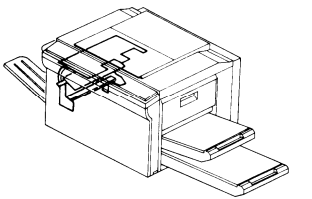
10. DUPLEX SECTION 2



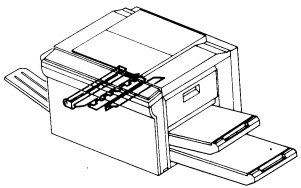
11. DUPLEX SECTION 3



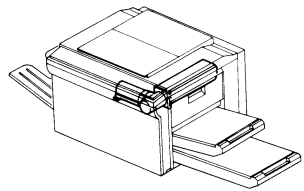
12. INVERTOR SECTION 1



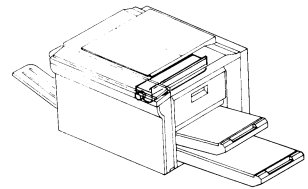
13. INVERTOR SECTION 2



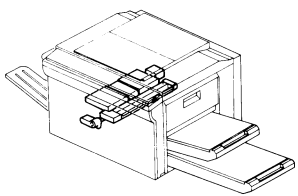
14. DEVELOPMENT 1



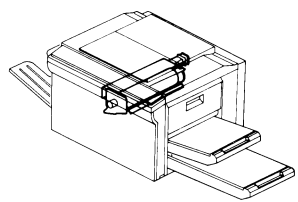
15. DEVELOPMENT 2



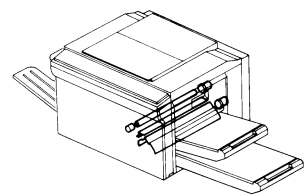
16. TRANSFER AND SEPARATION



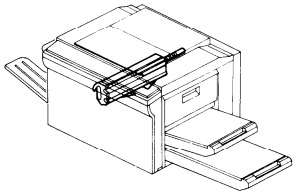
17. DRUM SECTION 1



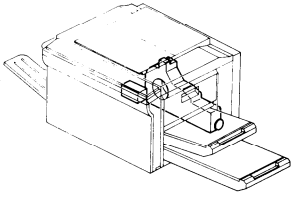
18. DRUM SECTION 2



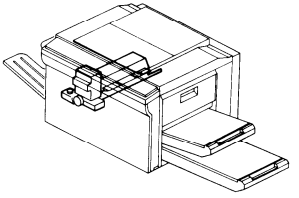
19. CLEANING UNIT 1



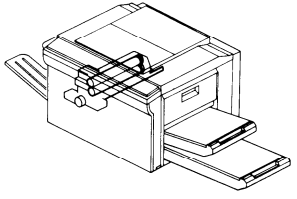
20. CLEANING UNIT AND TONER COLLECTION



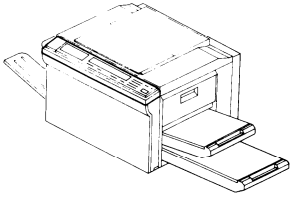
21. FUSING UNIT 1



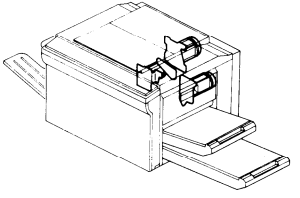
22. FUSING UNIT 2



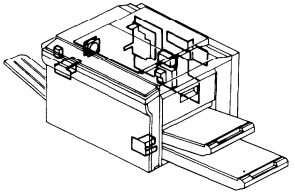
23. OPERATION PANEL



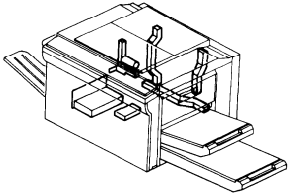
24. DRIVE SECTION



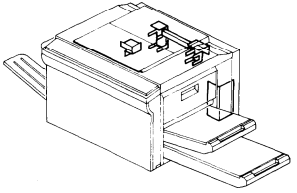
25. ELECTRICAL SECTION 1



26. ELECTRICAL SECTION 2

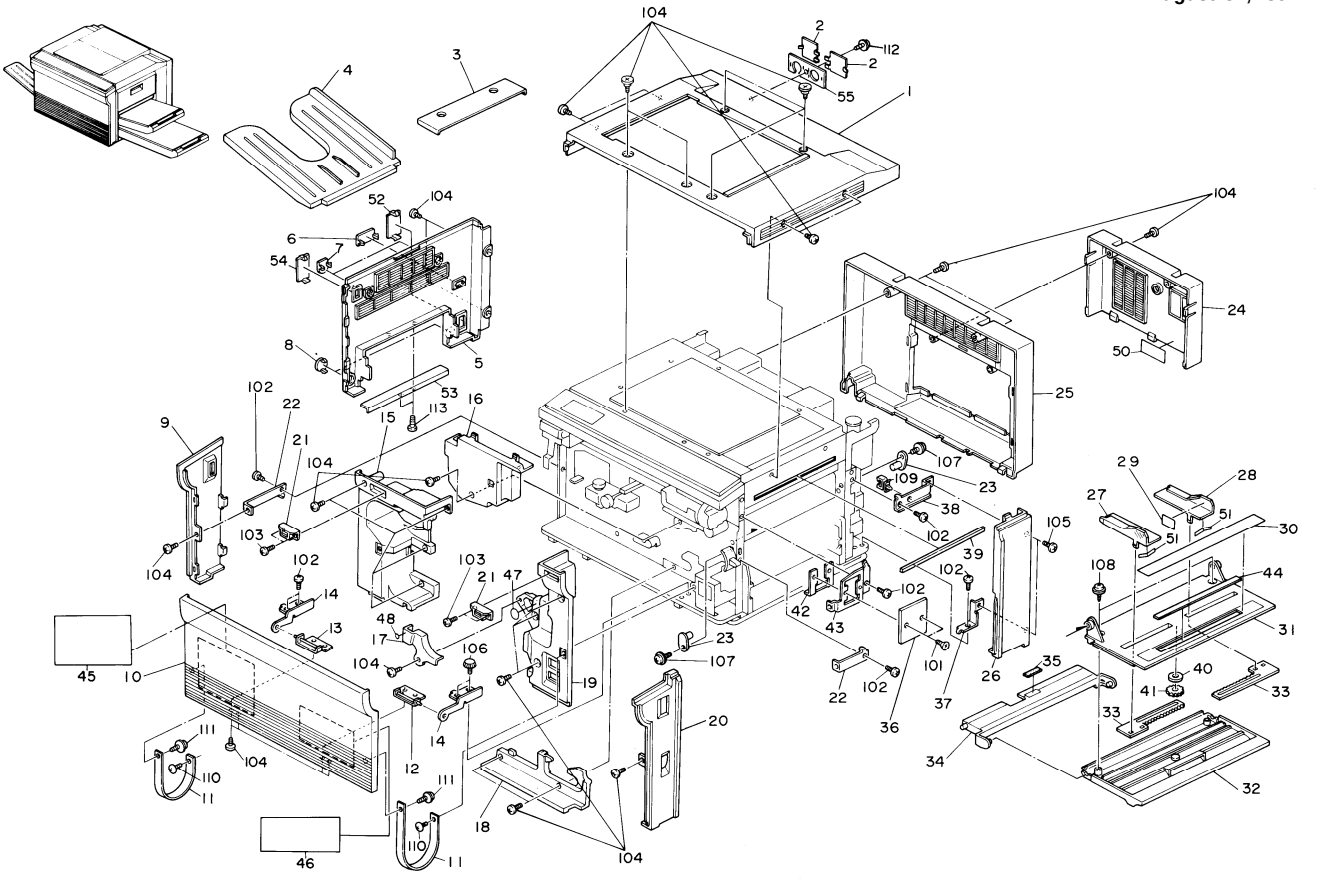


27. ELECTRICAL SECTION 3



1. EXTERIOR 1 (A045/A046)

August 31, '89



1. EXTERIOR 1 (A045/A046)

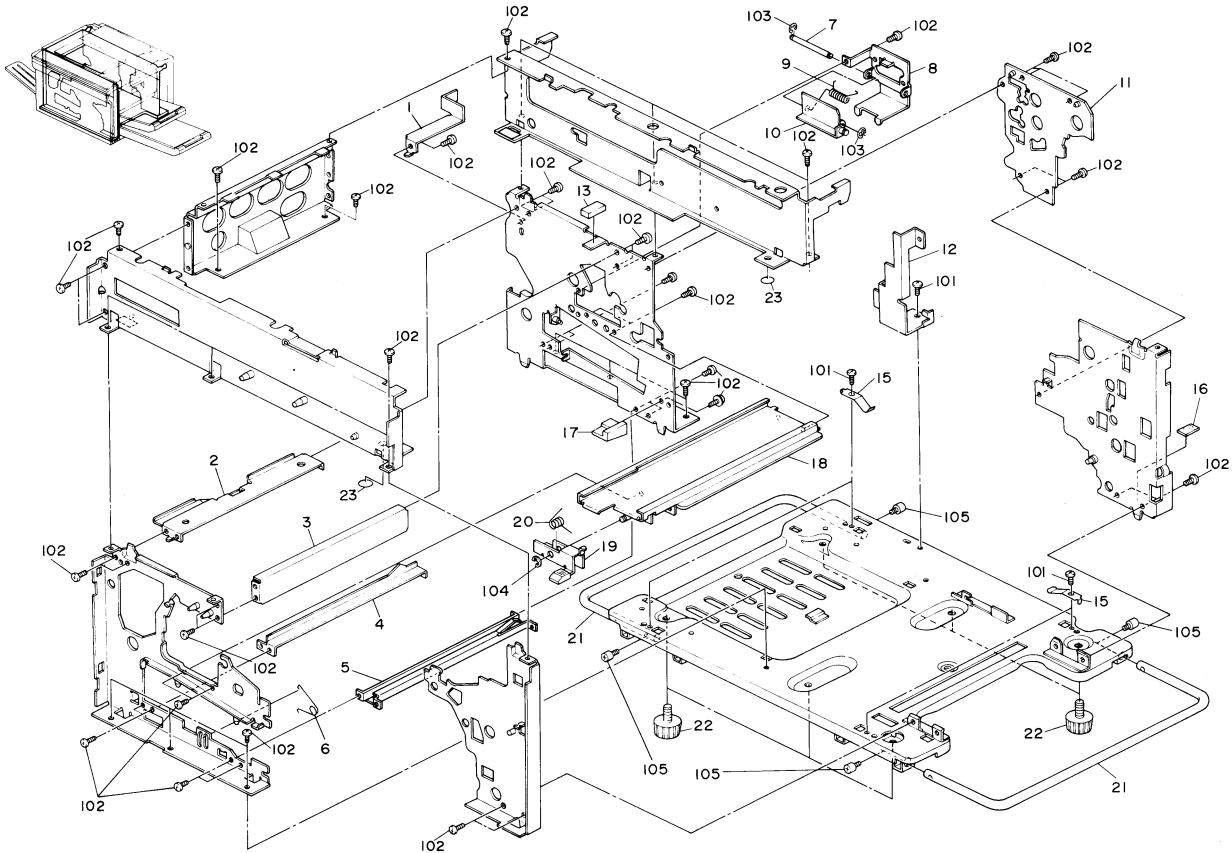
August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 6094	Rear Upper Cover	1
2	A045 1303	Upper Cover Cap - ADF	2
3	AC04 1034	Left Scale - LT	1
3	AC04 1035	Left Scale - A3/A4	1
4	AF04 3001	Receiving Tray	1
5	A007 6529	Left Cover	1
6	A008 1307	Cap - Cover - Left - Sorter	1
7	5211 1374	Cap - Left Cover - L	2
8	5211 1375	Cap - Left Cover - S	2
9	A007 6135	Left Front Cover	1
10	A045 1271	Front Cover (FT5570)	1
10	A045 1272	Front Cover (FT5550)	1
10	A046 1271	Front Cover (FT5540)	1
11	A007 1391	Band - Front Cover	2
12	5215 1295	Front Cover Hinge - Right	1
13	5215 1297	Front Cover Hinge - Left	1
14	A007 1257	Front Cover Bracket	2
15	A007 6206	Left Inner Cover	1
16	A007 6229	Front Inner Cover - Upper	1
17	A007 1308	Inner Cover - Registration Sensor	1
18	A007 6225	Front Inner Cover - Lower (FT5570,5540)	1
18	A007 1321	Lower Inner Cover (FT5550)	1
19	A007 6216	Right Inner Cover	1
20	A045 1331	Right Front Cover	1
21	5054 0536	Magnet Catch Ass'y	2
22	A007 1314	Bracket - Right Front Cover	2
23	A007 2803	Manual Feed Table Holder	2
24	A007 6181	Tonner Collection Rear Cover	1
25	A007 6510	Rear Cover	1
26	A007 6121	Right Rear Cover	1
27	A007 2796	Guide - Manual Feed - Front	1
28	A007 2797	Guide - Manual Feed - Rear	1
29	A007 2802	Decal - Side Fence - Manual Feed	1
30	AA00 2035	Decal - Manual Feed (LT)	1
30	AA00 2030	Decal - Manual Feed - A3/A4	1

Index No.	Part No.	Description	Q'ty Per Assembly
31	A007 2793	Manual Feed Table	1
32	A007 2794	Manual Feed Cover	1
33	5215 2688	Side Fence Gear	2
34	A007 2800	Manual Feed Table Support	1
35	5447 2927	Friction Pad - B	1
36	5424 1472	Cover - Key Counter	1
37	A007 1316	Bottom Bracket - Right Rear Cover	1
38	A007 1315	Upper Bracket - Right Rear Cover	1
39	5205 2734	Magnet - By-Pass Table	1
40	5215 2691	Brake	1
41	5215 2687	Gear - 16T	1
42	5446 1239	Plate Nut - Key Counter	1
43	A007 5874	Key Counter Bracket	1
44	5443 2706	Plate - 12x220x1T	1
45	A007 6348	Decal - Misfeed Large (FT5540,5570)	1
45	A007 6349	Decal - Misfeed Small (FT5540,5570)	1
45	A007 6350	Decal - Misfeed (FT5550)	1
46	A007 6351	Decal - Adding Toner	1
47	AA00 1037	Decal - A2	1
48	AA00 1038	Decal - Regist Sensor	1
50	A007 6355	Decal - Sensor Checker	1
51	A007 2817	Spring Plate - Manual Feed	1
52	A007 6156	Lower Rear Cap	1
53	A019 1281	Left Cover - Option	1
54	A007 6536	Upper Front Cap	1
55	A045 1302	Upper Cover Bracket - ADF	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0323 0060W	Philips Sunken Head Screw - M3x6	
102	0434 0080W	Tapping Screw - M4x8	
103	0802 5085	Tapping Screw - M4x8	
104	0802 5094	Tapping Truss Head Screw - M4x8	
105	0802 5094F	Truss Tapping Screw - M4T3x8	
106	0803 0017	Knob Screw - M4x6.5	
107	0960 4005W	Philips Flange Screw - M4x5	
108	0965 3008W	Tapping Screw With Flat Washer - M3x8	
109	1105 0197	Wire Saddle	
110	0951 4008	Philips Screw With Flat Washer - M4x8	
111	0965 4008W	Tapping Screw With Flat Washer - M4x8	
112	0433 0060W	Tapping Screw - M3x6	
113	0434 0062W	Tapping Screw - M4x6	

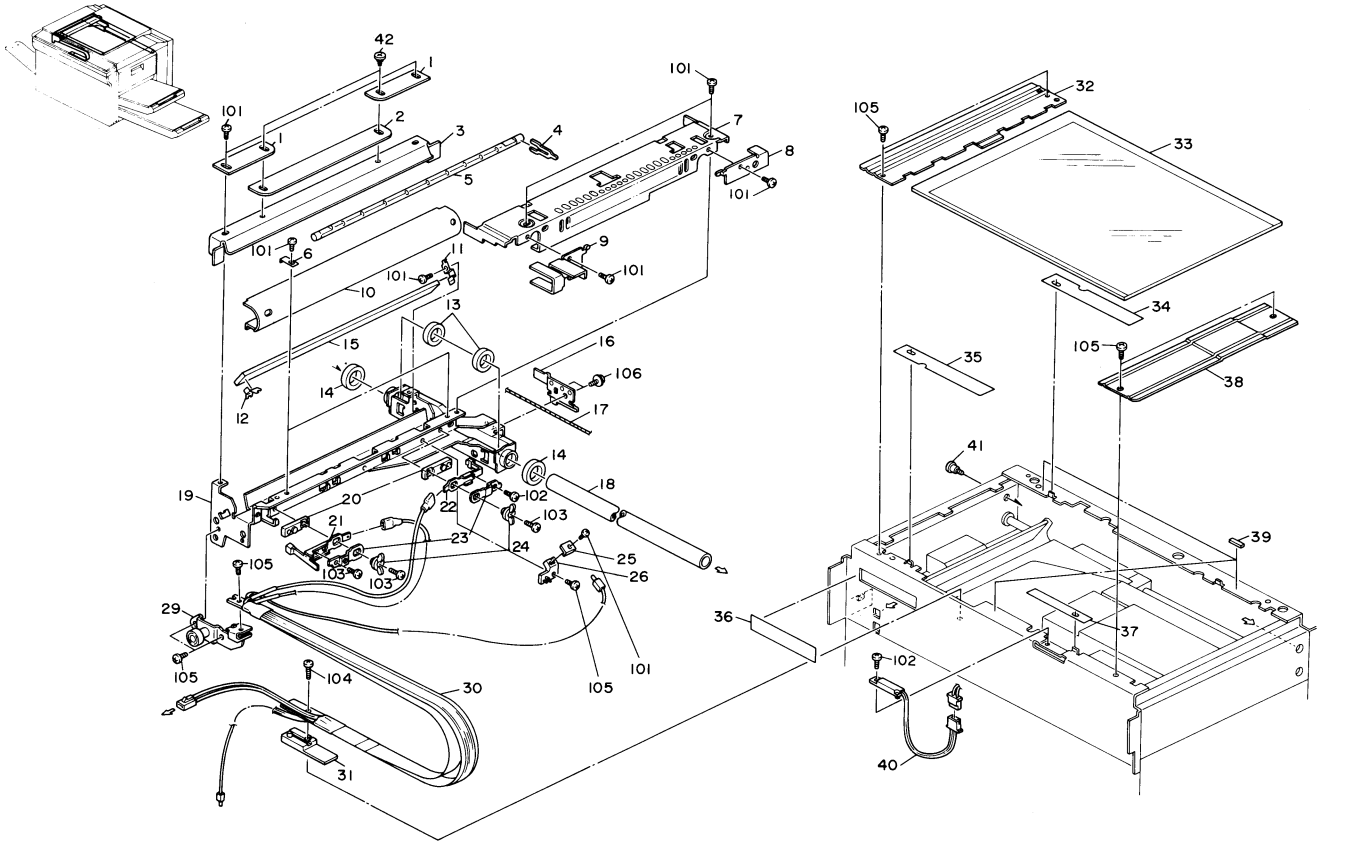
Index No.	Part No.	Description	Q'ty Per Assembly


102
103
7
9
8
10
11
1
13
12
101
23
15
16
17
18
2
3
20
19
104
4
5
6
21
22
105

2. EXTERIOR 2 (A045/A046)

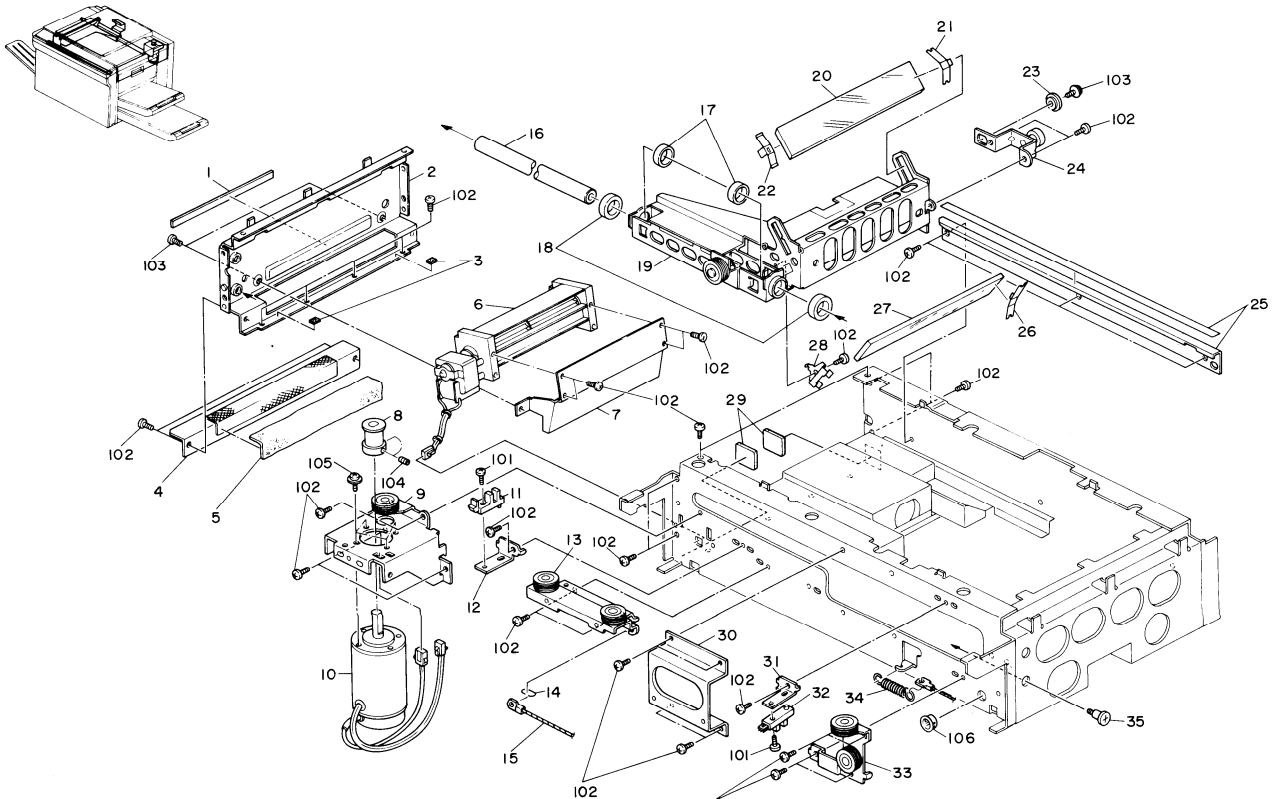
Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5862	Main Control Board Angle	1
2	A007 1065	Upper Left Stay	1
3	A007 1066	Upper Right Stay	1
4	A007 5005	Left Stay - Transport Chamber	1
5	A007 5006	Right Stay - Transport Chamber	1
6	AA06 6019	Transport Spring	1
7	AA14 5027	Shutter Shaft	1
8	A007 4381	Connector Bracket	1
9	AA06 6014	Connector Shotter Spring	1
10	A007 4382	Connector Shutter Plate	1
11	A007 2125	Side Plate - Behind Drum	1
12	A007 5864	Fan Angle	1
13	A007 2894	Cushion - 8x15x30	1
15	A007 1068	Leaf Spring - Transport Handle	4
16	5205 2893	Cushion - Sector Gear	1
17	5206 2851	Right Fork Gate Guide	1
18	A007 4370	Fusing Unit Rail	1
19	A007 4376	Release Lever - Fusing Unit	1
20	5205 1170	Spring - Fusing Release Lever	1
21	AG05 1003	Transport Handle Rod	2
22	5419 1057	Rubber Foot	6
23	5205 1853	Seal - 14mm	2

Index No.	Part No.	Description	Q'ty Per Assembly
101	0434 0060W	Tapping Screw - M4x6	
102	0434 0080W	Tapping Screw - M4x8	
103	0720 0030E	Retaining Ring - M3	
104	0720 0040E	Retaining Ring - M4	
105	0801 1179	Philips Screw With Toothed Washer	


42
1
101
2
3
4
5
7
8
6
9
11
10
13
15
16
106
14
12
17
18
19
20
21
22
102
103
23
24
25
26
29
105
104
30
31
32
33
34
35
38
41
39
36
37
40

3. OPTICS 1 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	5442 1704	Wing - Side	2
2	5442 1703	Wing - Center	1
3	A007 1860	Reflector Clamp	1
4	5215 1702	Clip - Exposure Lamp	1
5	AX52 0005	Exposure Lamp - 85V/160W	1
6	5409 1705	Clamp - Reflector	1
7	A007 1870	Reflector Cover	1
8	A007 1875	Rear Cover - Lamp Terminal	1
9	A007 1873	Front Cover - Lamp Terminal	1
10	A007 1865	Main Reflector	1
11	AC03 5009	Rear Spring Plate - 1st Mirror	1
12	AC03 5008	Front Spring Plate - 1st Mirror	1
13	A007 1848	Guide Rod Cleaner	2
14	AA16 1019	Cushion - Guide Rod	2
15	AC03 0013	1st Mirror	1
16	A007 1845	Wire Clamp	1
17	AA05 0012	Scanner Drive Wire	1
18	AC05 0002	Guide Rod - Scanner	1
19	A007 1851	1st Scanner	1
20	A007 1867	Insulator - Lamp Terminal	2
21	5442 1705	Exposure Lamp Terminal - Release	1
22	A007 1877	Exposure Lamp Termianl - Fix	1
23	5420 1682	Supporter - Lamp Terminal	2
24	A007 1868	Spacer - Lamp Terminal	2
25	A007 1892	Rear Cover - Optical Fiber	1
26	A007 1894	Rear Bracket - Optical Fiber	1
29	A007 1880	1st Scanner Slider	1
30	A045 5281	Exposure Lamp Harness	1
31	A007 1890	Harness Bracket - Exposure Lamp	1
32	A007 1675	Mounting Bracket Scale	1
33	AC01 2021	Exposure Glass - LT (FT5570)	1
33	AC01 2022	Exposure Glass - A3/A4	1
33	AC01 2002	Exposure Glass - LT (FT5540)	1
34	AA15 0011	Shielding Mylar - Rear Left	1
35	AA15 0009	Shielding Mylar - Front Left	1
36	AA15 0013	Light Shielding Mylar - Front Left	1
37	AA15 0010	Shielding Mylar - Front Center	1
38	A007 1818	Exposure Glass Stay (FT5550,5570)	1
38	A007 1680	Exposure Glass Stay (FT5540)	1
39	5442 1924	Cushion - Exposure Glass	3
40	A045 5201	Reed Switch	1
41	5216 1859	Stepped Screw - Slider Lock	2
42	5442 1702	Small Screw - M3	2
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0313 0080W	Philips Pan Head Screw - M3x8	
103	0313 0120W	Philips Pan Head Screw - M3x12	
104	0314 0140W	Philips Pan Head Screw - M4x14	
106	0434 0080W	Tapping Screw - M4x8	


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
101
102
103
104
105
106

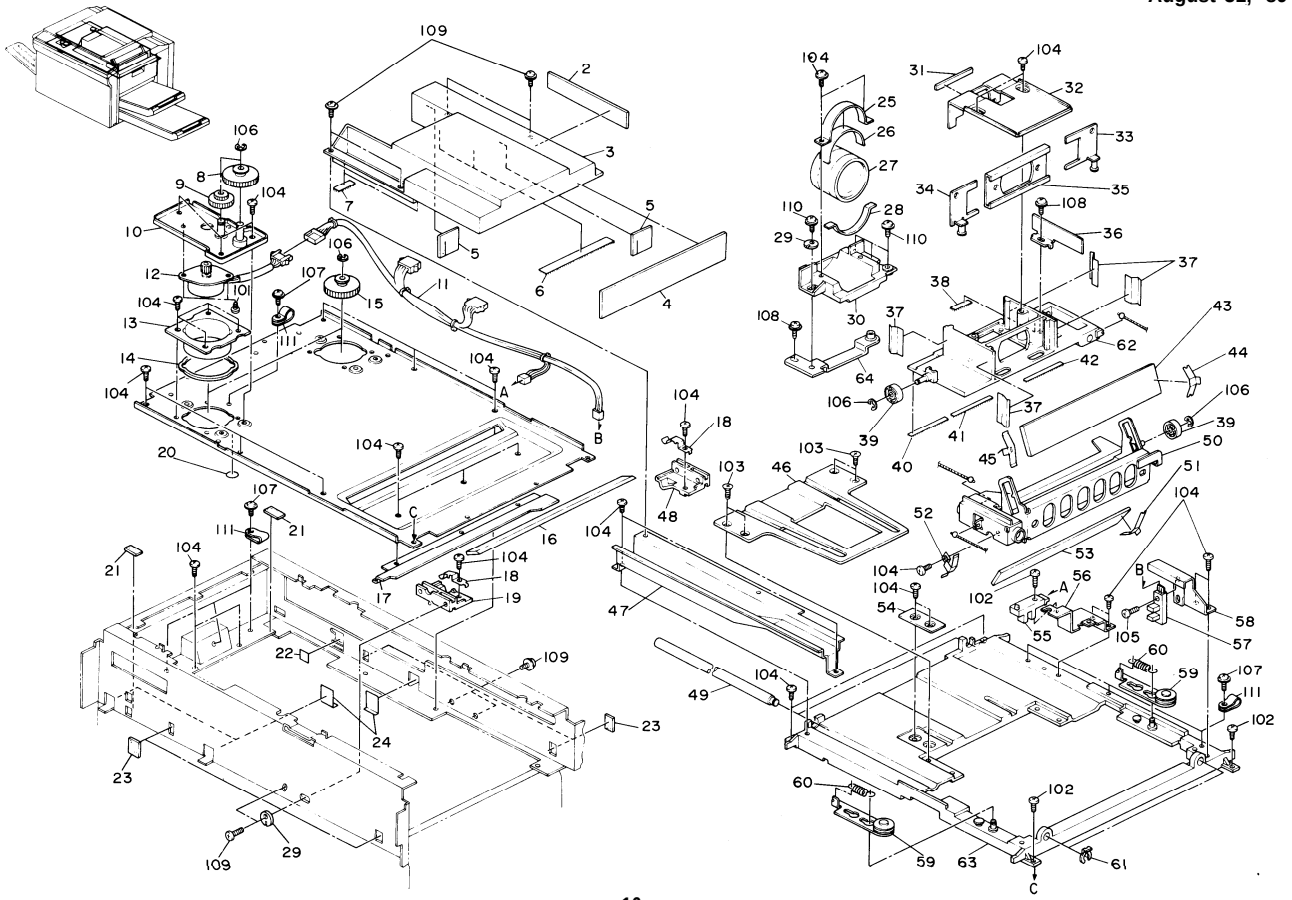
4. OPTICS 2 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	5205 2734	Magnet - By-Pass Table	1
2	A007 1670	Optics Right Frame	1
3	AA15 1087	Seal - 2x15x15	2
4	A007 1691	Optics Fan Filter Bracket	1
5	A007 1694	Optics Fan Flter	1
6	AX02 0029	Cooling Blower - AC50Hz 20.5W/60Hz 18W	1
7	A007 1686	Cooling Blower Bracket	1
8	AB03 2018	Scanner Drive Pulley	1
9	A007 1810	Scanner Motor Bracket	1
10	AX06 0023	Scanner Motor - DC 42W	1
11	5215 5230	Photointerrupter - L Type	1
12	A007 1806	Scanner Sensor Bracket	1
13	A007 1836	Center Pulley Bracket	1
14	5442 1798	Hook - Scanner Drive Wire	1
15	AA05 0014	Scanner Drive Wire	1
16	AC05 0002	Guide Rod - Scanner	1
17	A007 1848	Guide Rod Cleaner	2
18	AA16 1019	Cushion Guide Rod	3
19	A007 1901	2nd Scanner	1
20	AC03 0014	2nd Mirror	1
21	AC03 5010	Front Spring Plate - 2nd Mirror	1
22	AC03 5011	Rear Spring Plate - 2nd Mirror	1
23	5205 1694	Adjusting Cam - Start Lever	1
24	A007 1915	2nd Scanner Slider	1
25	A007 1925	Scanner Guide Plate	1
26	AC03 5012	Front Spring Plate - 3rd Mirror	1
27	AC03 0015	3rd Mirror	1
28	AC03 5014	Rear Spring Plate - 3rd Mirror	1
29	AA15 1089	Seal - 6x32x32	2
30	A007 1815	Support Bracket - Optics Frame	1
31	A007 1801	Scanner Home Sensor Bracket	1
32	5205 5251	LED Sensor Type - T	1
33	A007 1826	Left Pulley Bracket	1
34	AA06 0113	Spring - Wire Tightner	1
35	5216 1859	Stepped Screw - Slider Lock	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0314 0l00W	Philips Pan Head Screw - M4x10	
102	0434 0060W	Tapping Screw - M4x6	
103	0434 0080W	Tapping Screw - M4x8	
104	0574 0060E	Hexagon Headless Set Screw - M4x6	
105	0951 4010W	Philips Screw With Flat Washer - M4x10	
106	1106 0458	Bushing - 9.9mm	

5. OPTICS 3 (A045/A046)

August 31, '89

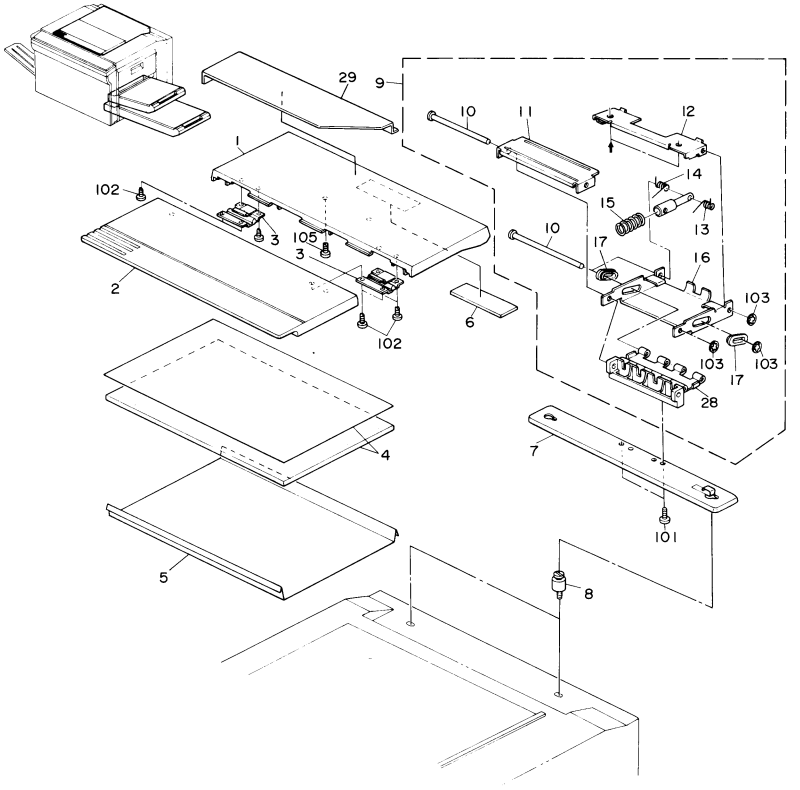


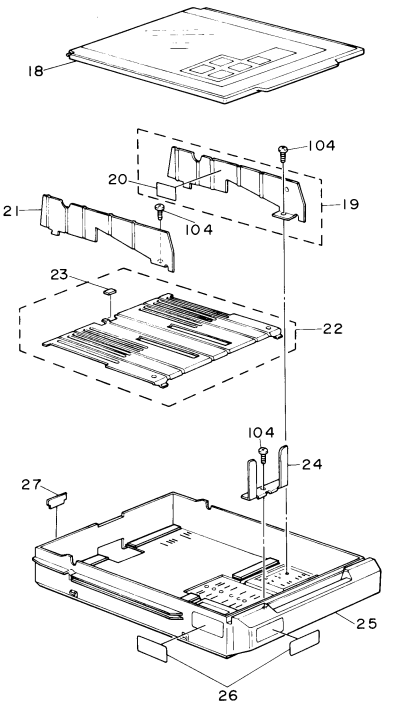
Index No.	Part No.	Description	Q'ty Per Assembly
2	AA15 1093	Seal - 3x25x170	1
3	A007 1791	Mirror Cover	1
4	AA15 1092	Seal - 3x42x270	1
5	AA15 1094	Seal - 2x50x48	2
6	AA15 2007	Brush Seal - 6x7x144	1
7	AA15 2008	Seal - 5x6x40	1
8	A007 1709	Mirror Drive Pulley - 80T	1
9	AB01 7039	Gear - 24/48T	1
10	A007 1707	Magnification Motor Bracket	1
11	A007 5215	Lens Home Sensor Harness	1
12	A007 1706	Magnification Drive Motor - DC4.8W	1
13	A007 1663	Stepping Motor Cover	1
14	A007 1664	Seal - Stepping Motor Cover	1
15	A007 1716	Lens Drive Pulley - 80T	1
16	AC03 0018	6th Mirror	1
17	A007 3497	Development Unit Rail	1
18	AC03 5007	Spring Plate - 6th Mirror	2
19	A007 1700	Front Bracket - 6th Mirror	1
20	5205 1853	Mylar Seal - Base	1
21	AA15 1087	Seal - 2x15x15	1
22	AA15 0012	Shielding Mylar - 30x30	1
23	AA15 1088	Seal - 2x20x28	2
24	AA15 0014	Light Shielding Mylar - Center	2
25	A007 1729	Lens Fixing Plate	1
26	AA16 1015	Cushion - Lens	1
27	AC02 0047	Lens 5/215 - 19	1
28	AA15 1091	Seal - 2x8x110	1
29	5205 1694	Adjusting Cam - Start Lever	2
30	A007 1793	Lens Bracket	1
31	AA16 1020	Cushion Lens - 3x7x80	1
32	A007 1751	Lens Shielding Cover	1
33	A007 1744	Rear Shield - Lens	1
34	A007 1742	Front Lens Shield	1
35	A007 1741	Lens Shield	1
36	A007 1727	Actuator Plate- Lens Home Sensor	1

Index No.	Part No.	Description	Q'ty Per Assembly
37	AA15 0015	Light Shielding Mylar - Lens	4
38	AA15 2012	Brush Seal - 4x4x40	1
39	5209 1694	Guide Roller - 1st Scanner	2
40	AA15 2009	Brush Seal - 4x5x84	1
41	AA15 2010	Brush Seal - 5x10X64	1
42	AA15 2011	Brush Seal - 4x5x25	1
43	AC03 0016	4th Mirror	1
44	AC03 5004	Rear Spring Plate - 4th Mirror	1
45	AC03 5003	Front Spring Plate - 4th Mirror	1
46	A007 1722	Cam Plate - Lens Shield	1
47	A007 1785	Harness Guide - Exposure Lamp	1
48	A007 1701	Rear Bracket - 6th Mirror	1
49	AC05 1001	Guide Rod - Magnification	2
50	A007 1761	4th and 5th Mirror Bracket	1
51	AC03 5005	Front Spring Plate - 5th Mirror	1
52	AC03 5006	Rear Spring Plate - 5th Mirror	1
53	AC03 0017	5th Mirror	1
54	A007 1770	Guide Bracket - Lens Shield	1
55	5215 5230	Photointerrupter - L Type	1
56	A007 1776	Lens Home Sensor Bracket	1
57	5205 5251	LED Sensor Type - T	1
58	A007 1781	Mirror Home Sensor Bracket	1
59	5215 1805	Lens Tension Pulley	2
60	5215 1811	Spring - Lens Drive Wire	2
61	5215 2621	Snap Ring - M6	2
62	A007 1799	Lens Bracket	1
63	A007 1721	Lens Unit Base	1
64	A007 1794	Plate - Lens Bracket	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0314 0100W	Philips Pan Head Screw - M4x10	
103	0324 0080W	Philips Sunken Head Screw - M4x8	
104	0434 0060W	Tapping Screw - M4x6	
105	0434 0100W	Tapping Screw - M4x10	
106	0720 0040E	Retaining Ring - M4	
107	0951 4005W	Philips Screw With Flat Washer - M4x5	
108	0951 4006W	Philips Screw With Flat Washer - M4x6	
109	0951 4008W	Philips Screw With Flat Washer - M4x8	
110	0951 4010W	Philips Screw With Flat Washer - M4x10	
111	1105 0005	Nylon Clip - 3N	

Index No.	Part No.	Description	Q'ty Per Assembly


29
9
10
11
12
1
102
14
15
13
10
17
16
103
3
105
3
2
6
102
103
17
103
28
4
7
101
5
8

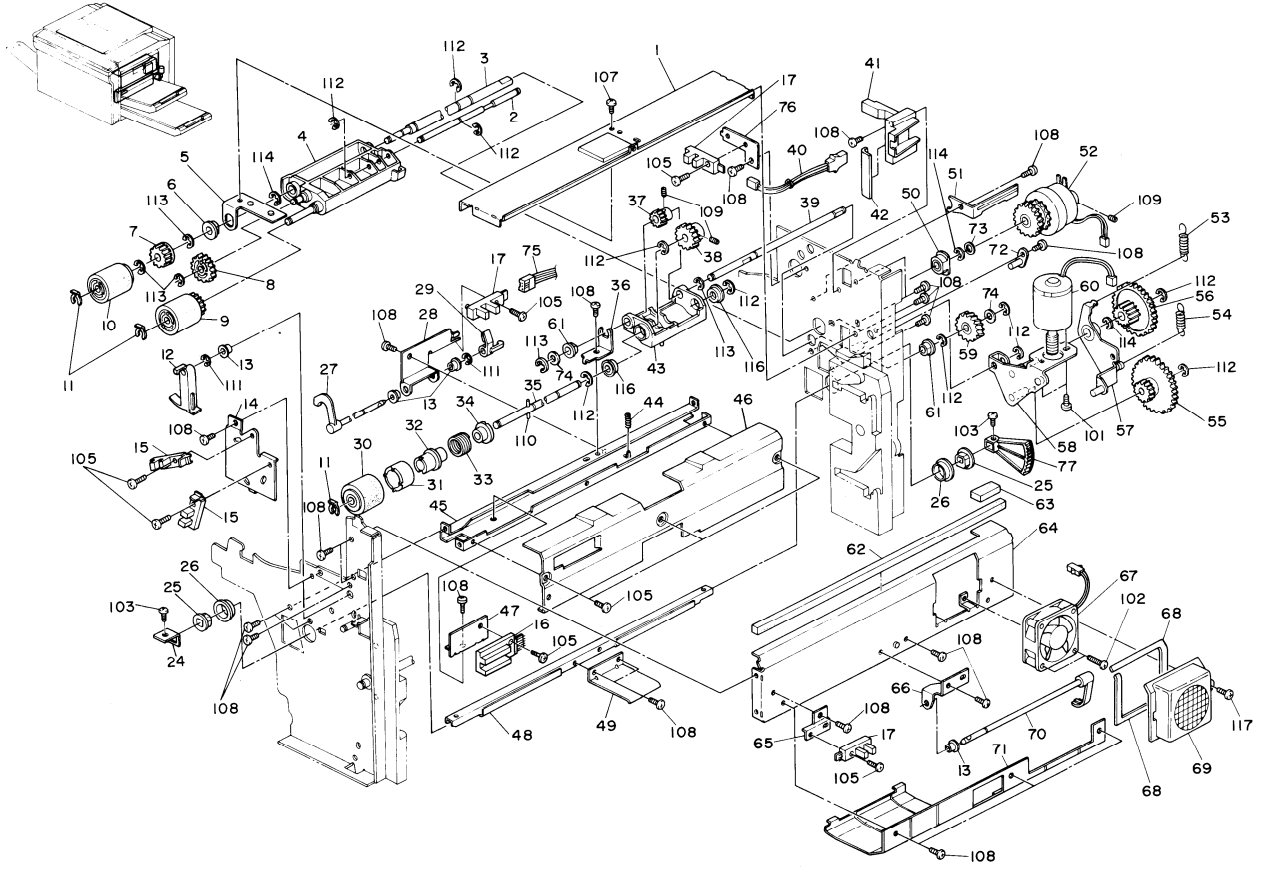

18
104
20
19
21
104
23
22
104
24
27
25
26

6. PLATEN COVER AND CASSETTE (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	AC00 1010	Platen Cover Ass'y	1
1	5211 2800	Rear Platen Cover	1
2	A007 1951	Front Platen Cover	1
3	5448 2824	Flex Hinge - Platen Cover	2
4	5448 2803	Platen Cover Pad	1
5	A008 9501	Platen Cover Sheet	1
6	5215 2838	Rubber Magnet	1
7	5215 2819	Mounting Bracket - Platen Cover	1
8	AA14 3035	Stud - Platen Cover Mounting	2
9	5215 2832	Platen Cover Hinge Ass'y	1
10	5215 2840	Pin - 4x115mm	3
11	5215 2845	Plate - Magnet	1
12	5215 2846	Platen Base	1
13	5215 2842	Right Spring - Platen Cover	1
14	5215 2843	Left Spring - Platen Cover	1
15	5215 2839	Balancer Spring	1
16	5215 2834	Arm Holder	1
17	5215 2844	Slide Supporter	2
18	AF01 2004	Cassette Cover - Large	1
18	AF01 2008	Cassette Cover - Small	1
19	5205 2947	Rear Side Fence (Large)	1
19	5205 6491	Rear Side Fence (Small)	1
20	5413 4835	Decal - Paper Level	1
21	5205 2946	Front Side Fence (Large)	1
21	5205 6493	Front Side Fence (Small)	1
22	5205 2937	Bottom Plate (Large)	1
22	5205 6570	Bottom Plate - Small	1
23	5447 2927	Friction Pad - B	1
24	5205 2953	Rear Fence	1
25	A007 2955	Cassette Body - Large	1
25	A007 2950	Cassette Body - Small	1
26	AA00 2003	Decal - 8-1/2"x14"	2
26	AA00 2004	Decal - 11"xl7"	2
26	AA00 2005	Decal - 8-1/2"xllR"	2
26	AA00 2006	Decal - 8-1/2"xll"	2
26	AA00 2007	Decal - A3	2
26	AA00 2008	Decal - A4R	2
26	AA00 2009	Decal - A4	2
27	5205 2971	Actuator - 11"x17"	1
27	5205 2979	Actuator - 11"x8-l/2"	1
27	5205 2996	Actuator - 8-1/2"xllR"	1
27	5205 2997	Actuator - 8-1/2"xl4"	1
27	5205 2960	Actuator - A3	1
27	5205 2962	Actuator - A4R	1
27	5205 2964	Actuator - A4S	1
28	5215 2847	Base Holder	1
29	AG02 1001	Original Holder	1
101	0414 0102W	Tapping Screw - M4x10	
102	0802 5131	Truss Head Screw - M4x8	
103	0805 0083	Retaining Ring - M4	
104	0965 4010W	Tapping Screw With Flat Washer - M4x10	
105	0965 4012W	Tapping Screw With Flat Washer - M4x12	

7. PAPER FEED UNIT 1 (A045/A046)

August 31, '89



7. PAPER FEED UNIT 1 (A045/A046)

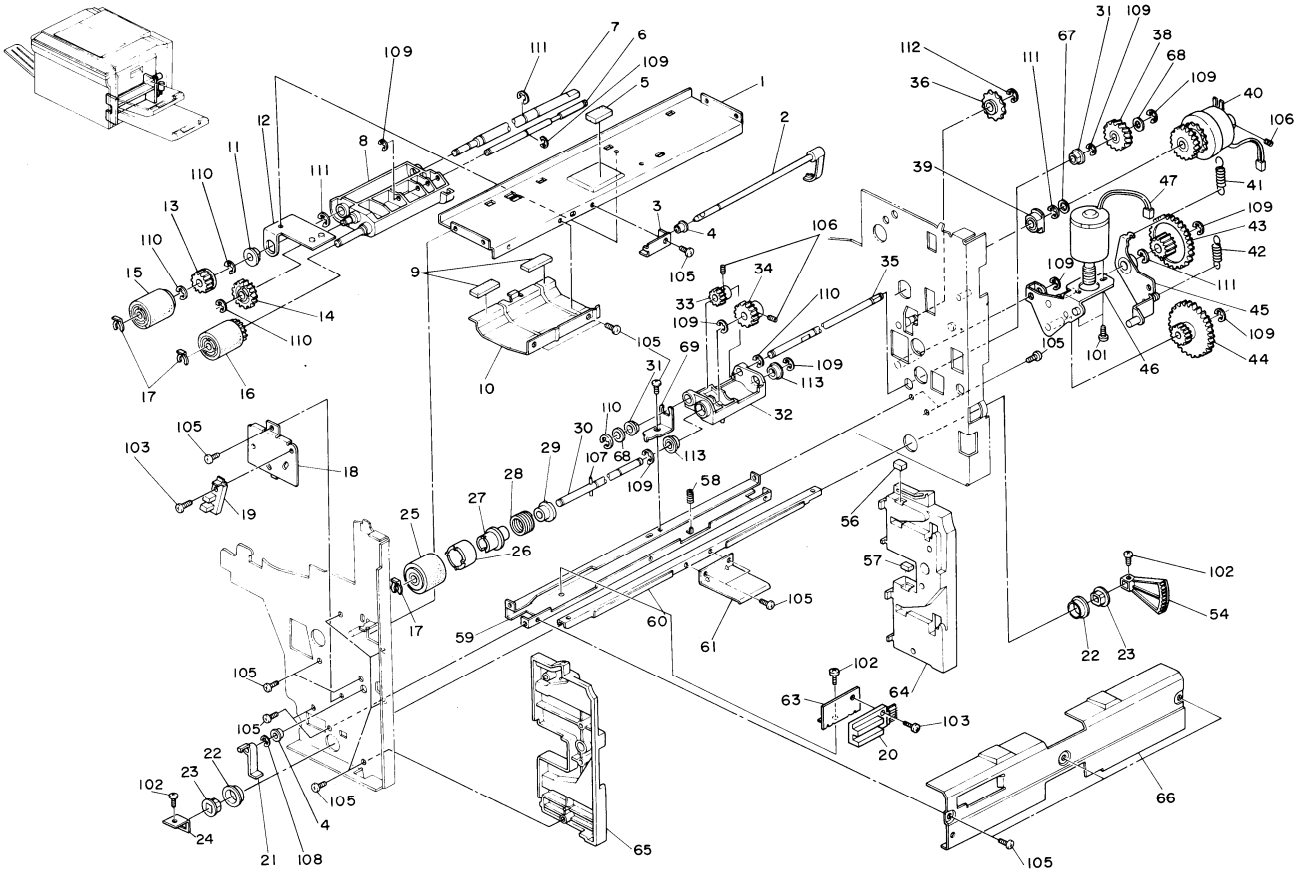
Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 2689	Stay - Paper Feed	1
2	AA14 0045	Pick UP Shaft	1
3	AA14 0046	Paper Feed Shaft - Upper	1
4	A007 2686	Feed Guide - Paper Feed Roller	1
5	A007 2684	Bracket - Paper Feed Roller	1
6	5053 0223	Bushing - 8mm	1
7	AB01 3078	Gear - 18T	1
8	AB01 3079	Gear - 21T	1
9	5447 2723	Pick-up Roller	1
10	5447 2726	Paper Feed Roller	1
11	5447 2681	Snap Ring	3
12	A007 2725	Paper End Shutter - Upper	1
13	5443 2668	Bushing	4
14	A007 2722	Upper Bracket - Paper End	1
15	5215 5230	Photointerrupter - L Type	2
16	5205 5253	Photointerrupter Pack	1
17	5205 5251	LED Sensor Type - T	1
24	A045 2758	Fixing Bracket	1
25	A007 2757	Sector Gear Bushing	2
26	A007 2756	Bushing - Volume Sensor Shaft	2
27	A007 2599	Paper Detect Feeler - Transport	1
28	A007 2602	Transport Roller Sensor Bracket	1
29	A007 2601	Transport Roller Sensor Shutter	1
30	5447 2693	Separation Roller	1
31	5447 2678	Slip Clutch Cover	1
32	5447 2676	Output Hub	1
33	5447 2697	Cylindrical Spring	1
34	5447 2695	Input Hub	1
35	AA14 0135	Separation Shaft	1
36	A007 2655	Separation Fixed Bracket	1
37	AB01 1023	Gear - 15T	1
38	AB01 1024	Gear - 25T	1
39	AA14 0044	Pressure Arm Shaft	1
40	A007 5204	Toner End Sensor Harness	1
41	A007 3487	Toner End Sensor Cover	1

Index No.	Part No.	Description	Q'ty Per Assembly
42	AA15 1027	Seal - 3x16x57	1
43	A007 2657	Separation Arm	1
44	AA06 3021	Paper Feed Separation Spring	1
45	A007 2653	Paper Feed Brace - Upper	1
46	A007 2649	Separation Guide	1
47	A007 2661	Paper Size Sensor Bracket	1
48	A007 2752	Volume Sensor Shaft	1
49	A007 2754	Bottom Plate Lever	1
50	5205 2865	Bushing - Paper Feed Roller	1
51	A007 2698	Upper Magnetic Clutch Stopper	1
52	AX20 0018	Paper Feed Clutch	1
53	AA06 0132	Spring	1
54	5205 2678	Spring	1
55	5205 2680	Coupled Gear - 16T/53T	1
56	5205 2681	Coupled Gear - 17T/50T	1
57	5205 2788	Cassette Sensor Arm - Upper	1
58	5205 2667	Bracket - Paper Lift Motor	1
59	AB01 3077	Gear - 20T	1
60	A000 5507	Lift Motor - DC1.69W	1
61	5053 0447	Bushing - M6	2
62	A007 2896	Seal - 8x8x368	1
63	A007 2894	Cushion - 8x15x30	1
64	A007 2893	Upper Paper Feed Bracket	1
65	A007 2805	Manual Feed Sensor Bracket	1
66	A007 2720	Paper End Actuator Bracket	1
67	AX04 0004	Cooling Fan Motor	1
68	AA15 1064	Seal - Cooling Fan	2
69	A007 3495	Cooling Fan Cover	1
70	A007 2718	Paper End Feeler	1
71	A007 2615	Upper Feed Guide	1
72	A007 2803	Manual Feed Table Holder	1
73	AA13 2025	Spacer - 1x8x12mm	1
74	AA13 2024	Spacer - M6	1
75	A045 5249	Paper Feed Unit Harness	2
76	A007 3486	Toner End Sensor Bracket	1

Index No.	Part No.	Description	Q'ty Per Assembly
77	A007 2759	Sector Gear	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0050W	Philips Pan Head Screw - M3x5	
102	0313 0280W	Philips Pan Head Screw - M3x28	
103	0314 0060W	Philips Pan Head Screw - M4x6	
104	0314 0080W	Philips Pan Head Screw - M4x8	
105	0314 0100W	Philips Pan Head Screw - M4x10	
106	0324 0080W	Philips Sunken Head Screw - M4x8	
107	0434 0060W	Tapping Screw - M4x6	
108	0434 0080W	Tapping Screw - M4x8	
109	0574 0050E	Hexagon Headless Set Screw - M4x5	
110	0622 0100W	Parallel Pin - M2x10	
111	0720 0030E	Retaining Ring - M3	
112	0720 0040E	Retaining Ring - M4	
113	0720 0050E	Retaining Ring - M5	
114	0720 0060E	Retaining Ring - M6	
115	0720 0070E	Retaining Ring - M7	
116	0805 3042	Ball Bearing - 6x10x3mm	
117	0951 4008W	Philips Screw With Flat Washer - M4x8	

8. PAPER FEED UNIT 2 (A045/A046)



8. PAPER FEED UNIT 2 (A045/A046)

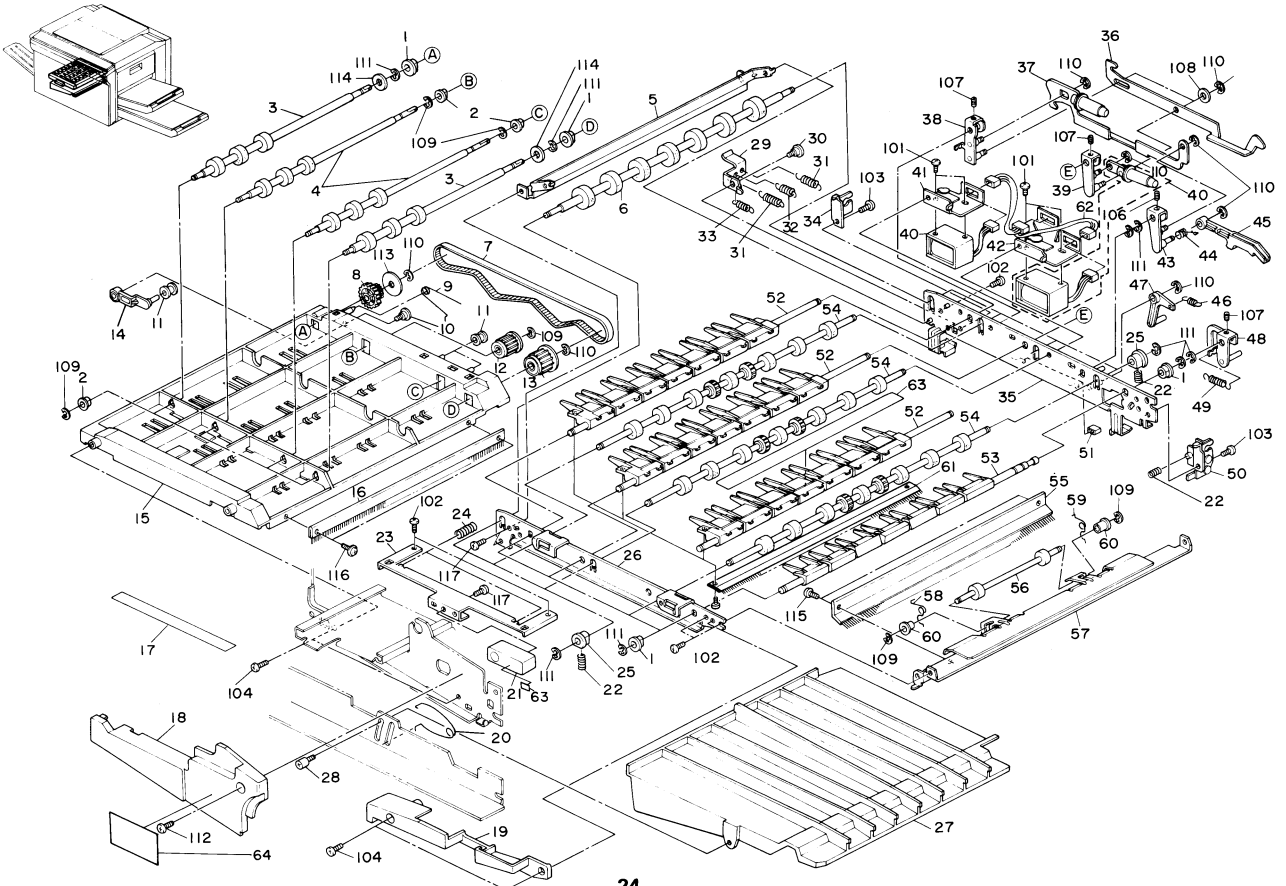
Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 2712	Lower Paper Feed Stay	1
2	A007 2718	Paper End Feeler	1
3	A007 2726	Paper End Actuator Bracket	1
4	5443 2668	Bushing	2
5	A007 2894	Cushion - 8x15x30	1
6	AA14 0045	Pick UP Shaft	1
7	AA14 0046	Paper Feed Shaft - Upper	1
8	A007 2686	Feed Guide - Paper Feed Roller	1
9	5205 2777	Cushion - Lower Pick-up Guide	2
10	A007 2631	Pick-up Guide - Lower	1
11	5053 0223	Bushing - 8mm	2
12	A007 2709	Paper Feed Roller Bracket	1
13	AB01 3078	Gear - 18T	1
14	AB01 3079	Gear - 21T	1
15	5447 2726	Paper Feed Roller	1
16	5447 2723	Pick-up Roller	1
17	5447 2681	Snap Ring	3
18	A007 2724	Lower Bracket - Paper End	1
19	5215 5230	Photointerrupter - L Type	1
20	5205 5253	Photointerrupter Pack	1
21	5205 2644	Paper End Actuator	1
22	A007 2756	Bushing - Volume Sensor Shaft	2
23	A007 2757	Sector Gear Bushing	2
24	A045 2758	Fixing Bracket	1
25	5447 2693	Separation Roller	1
26	5447 2678	Slip Clutch Cover	1
27	5447 2676	Output Hub	1
28	5447 2697	Cylindrical Spring	1
29	5447 2695	Input Hub	1
30	AA14 0135	Separation Shaft	1
31	5053 0447	Bushing - M6	2
32	A007 2657	Separation Arm	1
33	AB01 1023	Gear - 15T	1
34	AB01 1024	Gear - 25T	1
35	AA14 0044	Pressure Arm Shaft	1

Index No.	Part No.	Description	Q'ty Per Assembly
36	AB02 3018	Sprocket - 15T	1
38	AB01 3077	Gear - 20T	1
39	5205 2865	Bushing - Paper Feed Roller	1
40	AX20 0018	Paper Feed Clutch	1
41	AA06 0132	Spring	1
42	5205 2678	Spring	1
43	5205 2681	Coupled Gear - 17T/50T	1
44	5205 2680	Coupled Gear - 16T/53T	1
45	5205 2670	Cassette Sensor Arm	1
46	5205 2667	Bracket - Paper Lift Motor	1
47	A000 5507	Lift Motor - DC1.69W	1
54	A007 2759	Sector Gear	1
56	A007 2877	Cushion - Upper Pick-off Bracket	1
57	A007 2878	Cushion - Lower Pick-off Bracket	1
58	AA06 3021	Paper Feed Separation Spring	1
59	A007 2675	Paper Feed Stay - Lower	1
60	A007 2752	Volume Sensor Shaft	1
61	A007 2754	Bottom Plate Lever	1
63	A007 2661	Paper Size Sensor Bracket	1
64	A007 2874	Guide - Cassette - Holder - Rear	1
65	A007 2873	Guide - Cassette - Holder - Front	1
66	A007 2649	Separation Guide	1
67	AA13 2025	Spacer - 1x8x12mm	1
68	AA13 2024	Spacer - M6	2
69	A007 2655	Separation Fixed Bracket	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0050W	Philips Pan Head Screw - M3x5	
102	0314 0080W	Philips Pan Head Screw - M4x8	
103	0314 0100W	Philips Pan Head Screw - M4x10	
105	0434 0080W	Tapping Screw - M4x8	
106	0574 0050E	Hexagon Headless Set Screw - M4x5	
107	0622 0100W	Parallel Pin - M2x10	
108	0720 0030E	Retaining Ring - M3	
109	0720 0040E	Retaining Ring - M4	
110	0720 0050E	Retaining Ring - M5	
111	0720 0060E	Retaining Ring - M6	
112	0720 0070E	Retaining Ring - M7	
113	0805 3042	Ball Bearing - 6x10x3mm	

Index No.	Part No.	Description	Q'ty Per Assembly

9. DUPLEX SECTION 1 (A045/A046)



9. DUPLEX SECTION 1 (A045/A046)

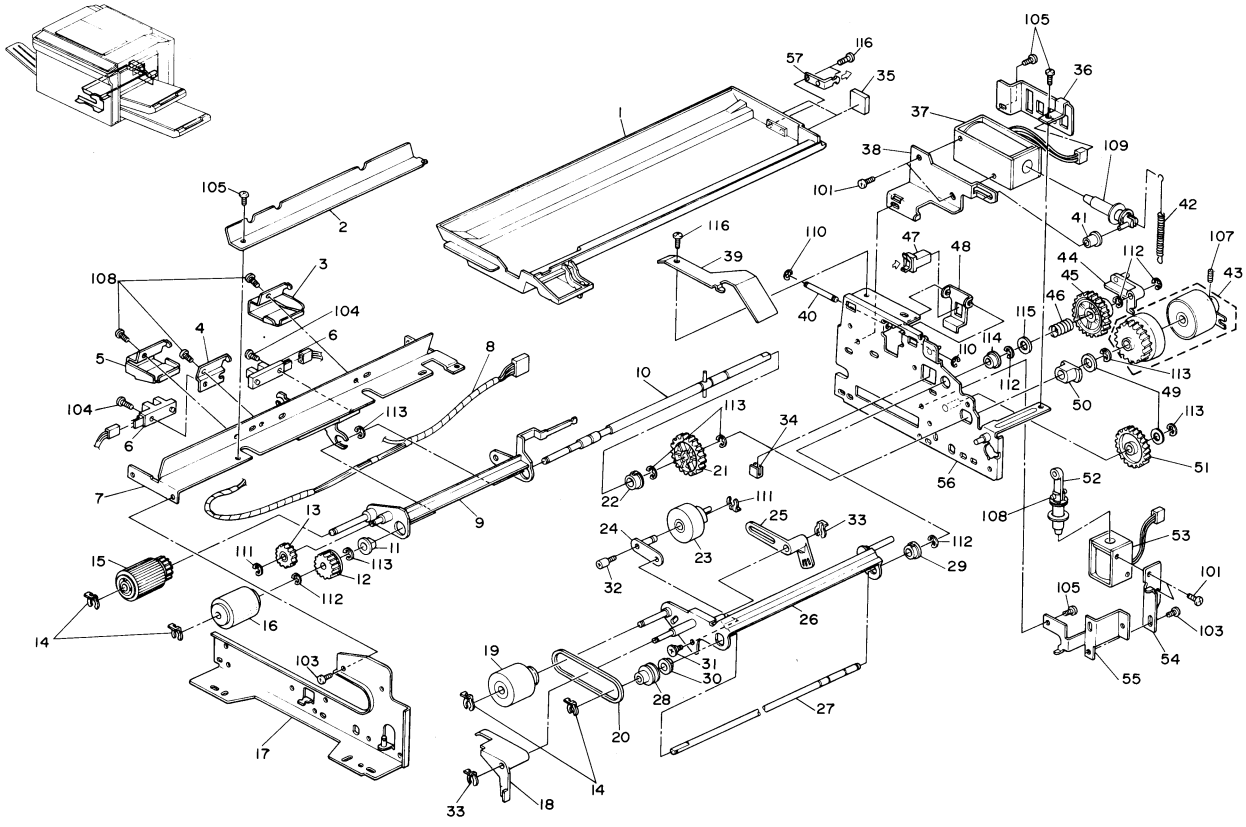
August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
*	A007 4550	Fork Gate Unit	1
1	5053 0447	Bushing - M6	4
2	AA08 0022	Bushing - 4x7x5mm	3
3	AF02 0018	Transport Roller - 20mm	2
4	AF02 0026	Transport Roller - 16mm	2
5	A007 4927	Entrance Guide Plate - Fork Gate	1
6	AF02 0029	Inverter Return Roller	1
7	AA04 0008	Timing Belt - 228MXL	1
8	AB03 2016	Gear - 25T	1
9	AA06 6020	Tension Spring.	1
10	AA14 3047	Stepped Screw - M3	1
11	A007 4914	Idler Roller	2
12	AB03 0018	Pulley - 20T	1
13	AB03 0017	Pulley - 25T	1
14	A007 4915	Tension Lever	1
15	A007 4900	Transport Chamber	1
16	AA12 0003	Anti - Static Brush - Duplex	1
17	A007 4942	Guide Plate - Fork Gate	1
18	A007 6221	Cover - Transport Chamber	1
19	A007 4919	Fork Gate Cover	1
20	AA06 6019	Transport Spring	1
21	A007 4711	Fork Gate Knob	1
22	5206 4478	Spring - Driven Roller	3
23	A007 4986	Fork Gate Stopper	1
24	AA06 3028	Spring - Fork Gate Stopper	1
25	AA08 0037	Bushing - 6mm	2
26	A007 4920	Front Side Frame - Fork Gate	1
27	A007 4990	Duplex Tray	1
28	5413 1875	Knob Screw	1
29	A007 4978	Micro Switch Lever	1
30	5413 1882	Stepped Screw	1
31	5206 2826	Spring - Gate Arm	2
32	AA06 0061	Spring - Fork Gate Lever	1
33	AA06 0062	Micro Switch Spring	1
34	5206 2840	Fork Gate Holder	1

Index No.	Part No.	Description	Q'ty Per Assembly
35	A007 4921	Rear Side Frame - Fork Gate	1
36	A007 4970	Fork Gate Lever	1
37	A007 4967	Gate - Solenoid - Left	1
38	A007 4950	First Gate Arm	1
39	A007 4955	Second Gate Arm	1
40	A007 4979	Fork Gate Solenoid	2
41	5206 2833	Gate Solenoid Bracket	1
42	A007 4976	Fork Gate Solenoid Bracket	1
43	A007 4960	Third Gate Arm	1
44	AA06 6018	Spring - Fork Gate Actuator	1
45	A007 4972	Fork Gate Actuator	1
46	5446 4235	Spring - Hot Roller Stripper	1
47	A007 4973	Release Lever - Fork Gate	1
48	A007 4965	Junction Gate Shaft Arm	1
49	5208 4173	Spring - Stripper	1
50	A007 4980	Fork Gate Setting Plate	1
51	AA16 1016	Cushion - Fork Gate	2
52	AF02 5002	Fork Gate Pawl - Large	3
53	AF02 5003	Fork Gate Pawl - Small	1
54	A007 4934	Fork Guide Roller	3
55	AA12 0002	Anti-Static Brush - Fork Gate 4	1
56	AF02 0027	Exit Roller - Entrance Guide Plate	1
57	A007 4930	Exit Guide Plate - Fork Gate	1
58	AA06 0059	Front Spring - Exit Roller	1
59	AA06 0060	Rear Spring - Exit Roller	1
60	5443 2668	Bushing	2
61	AA12 0001	Anti-Static Brush - Fork Gate	3
62	A007 5264	Gate Solenoid Harness	1
63	AA00 1062	Decal - Handle	1
64	A007 6353	Decal - Reset	1

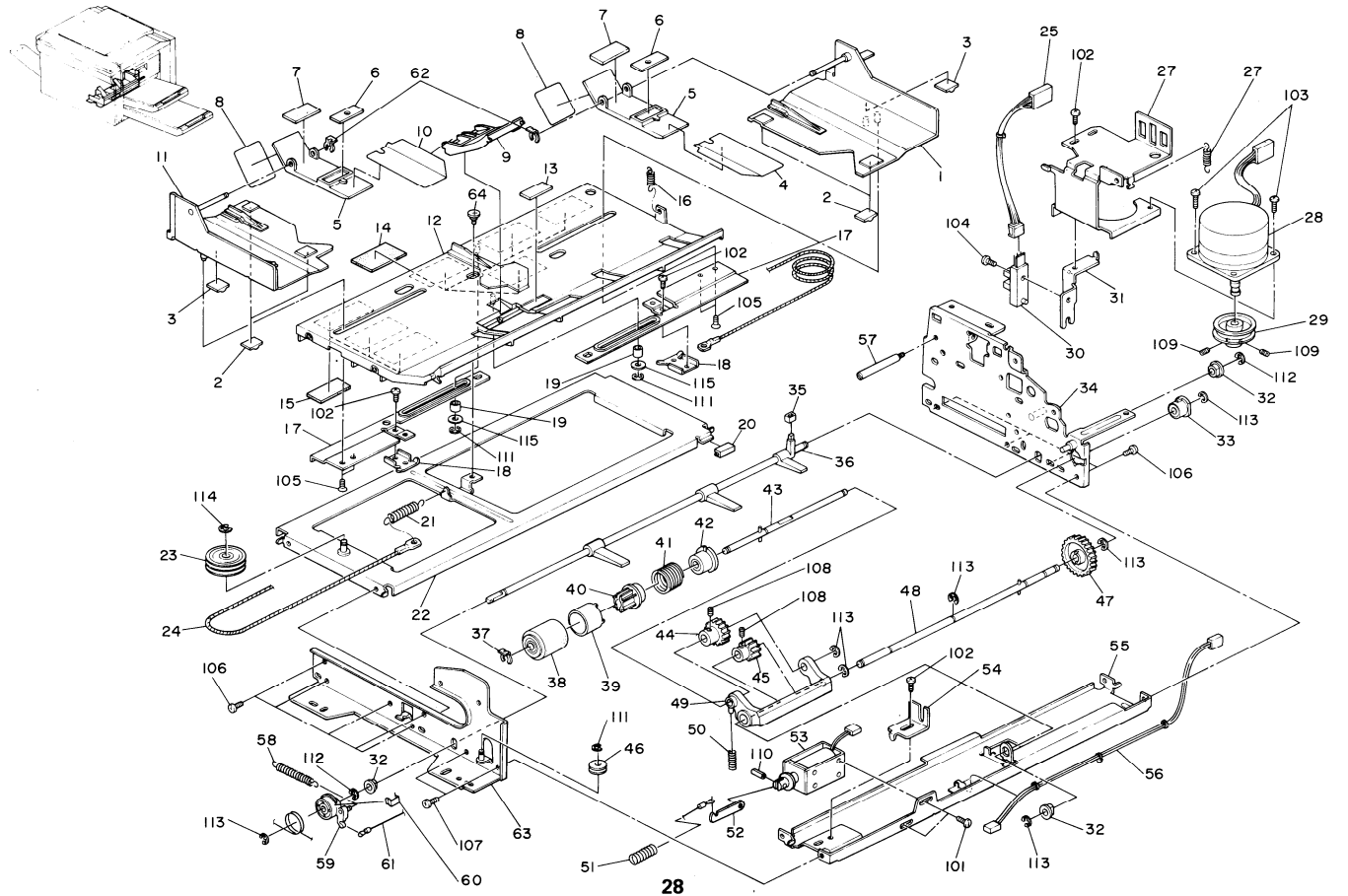
Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0040W	Philips Pan Head Screw - M3x4	
102	0313 0060W	Philips Pan Head Screw - M3x6	
103	0434 0060W	Tapping Screw - M4x6	
104	0434 0080W	Tapping Screw - M4x8	
105	0574 0050E	Hexagon Headless Set Screw - M4x5	
106	0574 0060E	Hexagon Headless Set Screw - M4x6	
107	0594 0050E	Socket Bolt - M4x5	
108	0700 0050W	Flat Washer - M5	
109	0720 0030E	Retaining Ring - M3	
110	0720 0040E	Retaining Ring - M4	
111	0720 0050E	Retaining Ring - M5	
112	0802 5094	Tapping Truss Head Screw - M4x8	
113	0807 4041	Collar - 6.5x20mm	
114	0807 4123	Spacer - 6x13x1mm	
115	0965 3006W	Tapping Screw With Flat Washer - M3x6	
116	0965 4008W	Tapping Screw With Flat Washer - M4x8	
117	0314 0060W	Philips Pan Head Screw - M4x6	

Index No.	Part No.	Description	Q'ty Per Assembly


105
116
57
35
36
37
38
109
101
42
41
107
43
44
45
46
112
115
114
110
113
49
50
51
52
108
53
54
55
56
47
48
39
40
1
2
3
4
5
6
7
8
9
10
104
111
12
13
15
14
16
17
103
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33

10. DUPLEX SECTION 2 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A007 4520	Duplex Transport Unit	1
1	A007 4846	Toner Catch Pan	1
2	A007 4841	Sensor Harness Cover	1
3	A007 4843	Entrance Actuator Sensor Cover	1
4	5206 2626	Sensor Bracket - Duplex Paper End	1
5	5206 2695	Cover - Duplex Paper Sensor	1
6	5205 5250	LED Sensor Type - S	2
7	A007 4800	Duplex Stay	1
8	A007 5263	Duplex Entrance Harness	1
9	A007 4805	Pick-up Arm	1
10	A007 4809	Duplex Feed Shaft	1
11	5206 2650	Bushing - 8x12x7mm	1
12	AB01 3105	Gear - 18T	1
13	5447 2706	Gear - 15T	1
14	5447 2681	Snap Ring	4
15	AF03 0001	Duplex Pick-up Roller	1
16	AF01 0003	Feed Roller	1
17	A007 4700	Front Frame - Duplex Feed	1
18	5206 2690	Duplex Paper Actuator	1
19	AF03 1001	Dupelx Positioning Roller	1
20	AA04 2001	Feed Drive Belt	1
21	AB01 3087	Gear - 30T	1
22	AA08 0020	Bushing - 8x16x5mm	1
23	5206 2680	Entrance Actuator Roller	1
24	5206 2681	Axle Plate	1
25	5206 2685	Entrance Actuator Plate	1
26	A007 4820	Feed Roller Arm	1
27	AA14 0063	Feed Roller Arm Shaft	1
28	AB03 2017	Feed Roller Pulley - 25T	1
29	AA08 0021	Bushing - 6x12x4mm	1
30	5206 2677	Bushing - 6x10x7mm	1
31	5206 2684	Shoulder Screw - M3	1
32	5206 2687	Stud Screw - M3	1
33	5206 2686	Snap Ring	2
34	AA16 1018	Cushion - Duplex Frame	1
35	A007 4847	Seal - 5x20x20	1
36	A007 4792	Connector Bracket	1
37	AX11 0006	Duplex Pick-up Solenoid	1
38	A007 4865	Pick-up Solenoid Bracket	1
39	A007 4868	Pick-up Solenoid Cover	1
40	5919 2303	Actuator Shaft	1
41	A007 4866	Solenoid Guide Roller	1
42	AA06 0056	Pressure Spring	1
43	AX20 0020	Magnetic Clutch-Duplex Feed	1
44	A007 4826	Duplex Feed Arm	1
45	AB01 3089	Gear - 30T	1
46	AA06 3030	Duplex Spring	1
47	A007 4709	Push Lock	1
48	A007 4710	Push Lock Bracket	1
49	AA13 2025	Spacer - 1x8x12mm	2
50	5206 2651	Ball Bearing - 8x20x13mm	1
51	AB01 3086	Gear - 30T	1
52	A007 4828	Positioning Solenoid Lever	1
53	AX10 0005	Duplex Positioning Solenoid	1
54	A007 4870	Solenoid Bracket	1
55	A007 4871	Duplex Solenoid Bracket	1
56	A007 4705	Rear Frame - Duplex Feed	1
57	A007 4845	Guide Pin	1
101	0313 0040W	Philips Pan Head Screw - M3x4	
102	0314 0060W	Philips Pan Head Screw - M4x6	
103	0314 0080W	Philips Pan Head Screw - M4x8	
104	0314 0100W	Philips Pan Head Screw - M4x10	
105	0434 0060W	Tapping Screw - M4x6	
106	0434 0080W	Tapping Screw - M4x8	
107	0574 0060E	Hexagon Headless Set Screw - M4x6	
108	0623 0100E	Spring Pin - 3x10mm	
109	0623 0180E	Spring Pin - 3x18mm	
110	0720 0025E	Retaining Ring - M2.5	
111	0720 0040E	Retaining Ring - M4	
112	0720 0050E	Retaining Ring - M5	
113	0720 0060E	Retaining Ring - M6	
114	0805 3101	Ball Bearing - 6x13x5mm	
115	0807 4043	Spacer	
116	0323 0060	Philips Sunken Head Screw - M3x6	



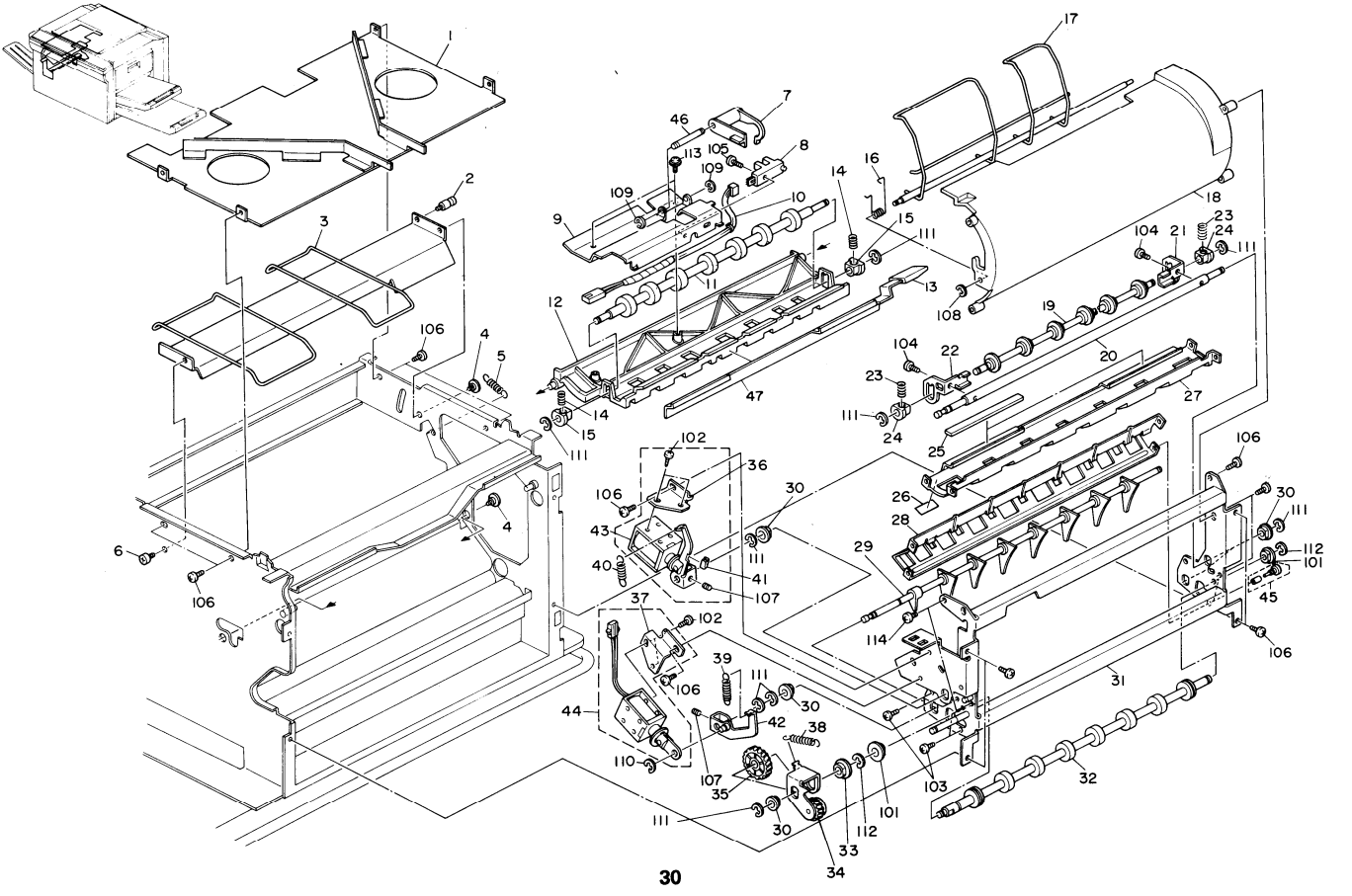
11. DUPLEX SECTION 3 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A007 4500	Jogger Unit	1
*	A007 4510	Front Paper Stopper Guide Unit	1
*	A007 4511	Rear Paper Stopper Guide Unit	1
1	A007 4742	Jogger Fence - Rear	1
2	A007 4739	Jogger Fence Shoe - 2	4
3	A007 4740	Jogger Fence Shoe - 1	2
4	A007 4749	Duplex Setter Mylar - Rear	1
5	5206 2925	Duplex Setter	2
6	5206 2926	Weight - Duplex Settler	2
7	5206 2929	Cushion - Duplex Settler	2
8	A007 4752	Duplex Settler Guide	2
9	A007 4730	Duplex Guide Plate - Middle	1
10	A007 4746	Duplex Setter Mylar - Front	1
11	A007 4735	Front Jogger Fence	1
12	A007 4725	Duplex Guide Plate	1
13	5206 2557	Friction Pad - Duplex Guide Plate	1
14	A007 4731	Anti-Vibration Pad - Large	4
15	A007 4732	Anti-Vibration Pad - Small	3
16	5206 2700	Spring - Pick-up Roller	1
17	A007 4744	Guide Plate - Jogger Fence	2
18	5206 2877	Wire Clamp Plate	2
19	A007 4727	Jogger Fence Roller	2
20	AA16 1018	Cushion - Duplex Frame	1
21	5206 2876	Spring - Wire	1
22	A007 4712	Jogger Stay	1
23	5209 1735	Puny	1
24	AA05 0013	Jogger Fence Drive Wire	1
25	A007 5261	Home Sensor Harness	1
26	A007 4720	Jogger Motor Bracket	1
27	5350 2466	Spring - Pressure Arm	1
28	5919 5309	Stepper Motor - DC 4.8W	1
29	A007 4717	Jogger Motor Pulley	1
30	5205 5251	LED Sensor Type - T	1
31	A007 4722	Home Sensor Bracket	1
32	5053 0447	Bushing - M6	3

Index No.	Part No.	Description	Q'ty Per Assembly
33	AA08 3003	Bushing - 6x18x5mm	1
34	A007 4705	Rear Frame - Duplex Unit	1
35	AA16 1016	Cushion - Fork Gate	1
36	A007 4780	Duplex Stopper	1
37	5447 2681	Snap Ring	1
38	5206 2605	Separation Roller	1
39	5447 2678	Slip Clutch Cover	1
40	5447 2676	Output Hub	1
41	5206 2607	Spring - Separation	1
42	5447 2695	Input Hub	1
43	5206 2603	Separation Driven Shaft	1
44	5205 2608	Gear - 23T	1
45	5206 2609	Gear - 22T	1
46	A007 4783	Paper Stopper Pulley	1
47	AB01 3088	Helical Gear - 29T	1
48	A007 4854	Separation Drive Shaft	1
49	A007 4851	Duplex Separation Arm	1
50	AA06 3029	Separation Pressure Spring	1
51	AA06 3027	Spring - Duplex Stopper Solenoid	1
52	A007 4779	Duplex Stopper Solenoid Lever	1
53	5206 2712	Duplex Stopper Solenoid	1
54	A007 4785	Adjusting Plate - Duplex Solenoid	1
55	A007 4849	Bottom Frame - Duplex Feed	1
56	A007 5262	Duplex Stopper Solenoid Harness	1
57	5447 2833	Pin - By-Pass Feed Table	1
58	AA06 0127	Spring - Duplex Stopper Cam	1
59	A007 4782	Paper Stopper Pulley	1
60	A007 4786	Wire Clamp	1
61	AA05 1002	Wire - Duplex Stopper Solenoid	1
62	5206 2686	Snap Ring	2
63	A007 4700	Front Frame - Duplex Feed	1
64	5442 2117	Shoulder Screw - Hinge	1

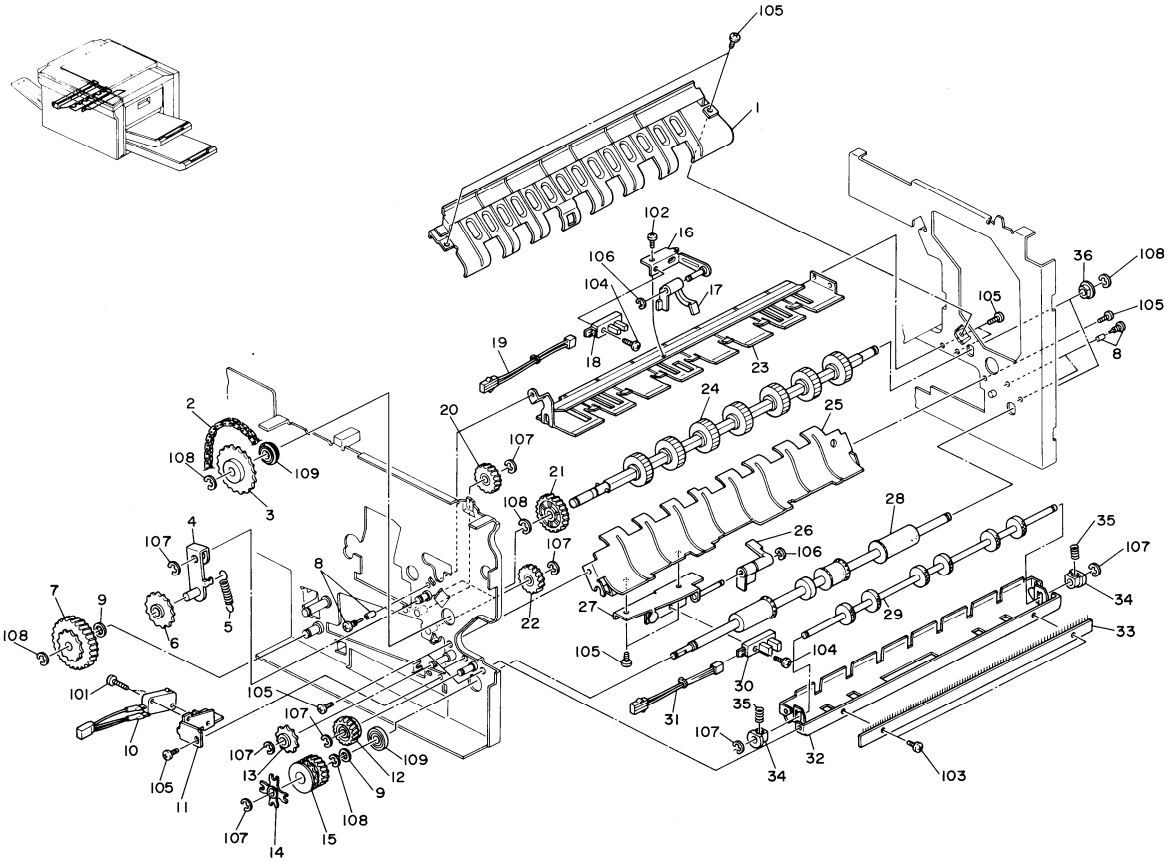
Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0050W	Philips Pan Head Screw - M3x5	
102	0314 0060W	Philips Pan Head Screw - M4x6	
103	0314 0080W	Philips Pan Head Screw - M4x8	
104	0314 0100W	Philips Pan Head Screw - M4x10	
105	0323 0060W	Philips Sunken Head Screw - M3x6	
106	0434 0060W	Tapping Screw - M4x6	
107	0434 0080W	Tapping Screw - M4x8	
108	0574 0040E	Hexagon Headless Set Screw - M4x4	
109	0574 0060E	Hexagon Headless Set Screw - M4x6	
110	0623 0120E	Spring Pin - 3x12mm	
111	0720 0030E	Retaining Ring - M3	
112	0720 0040E	Retaining Ring - M4	
113	0720 0050E	Retaining Ring - M5	
114	0720 0060E	Retaining Ring - M6	
115	0807 3014	Nylon Washer	

Index No.	Part No.	Description	Q'ty Per Assembly


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
101
102
103
104
105
106
107
108
109
110
111
112
113
114

12. INVERTOR SECTION 1 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A007 4409	Inverter Unit	1
1	A007 1930	Vacuum Fan Duct	1
2	5403 2049	Spring Anchor	1
3	A007 4455	Upper Guide - Inverter Unit	1
4	5403 2075	Stepped Screw	2
5	5207 4405	Spring - Fusing Unit	1
6	5206 2687	Stud Screw - M3	1
7	A007 4466	Paper Entrance Feeler	1
8	5205 5251	LED Sensor Type - T	1
9	A007 4464	Inverter Entrance Sensor Bracket	1
10	A007 5260	Inverter Guide Entrance Harness	1
11	AF02 0056	Inverter Return Roller	1
12	A007 4461	Guide Plate - Open and Shut	1
13	A007 4460	Guide Holder Pressure	1
14	5205 4527	Spring - Exit	2
15	AA08 0037	Bushing - 6mm	1
16	5206 4388	Spring - Inverter Guide	1
17	A007 4630	Inverter Guide	1
18	A007 4625	Inverter Guide Plate	1
19	AF02 0031	Inverter Pressure Roller	1
20	AA14 0049	Inverter Pressure Shaft	1
21	A007 4616	Inverter Pressure Arm - Front	1
22	A007 4617	Inverter Pressure Arm - Rear	1
23	5206 4478	Spring - Driven Roller	2
24	AA08 0031	Bushing	2
25	AA02 0007	Inverter Unit Magnet	1
26	AA16 1017	Cushion - Junction Gate	1
27	A007 4620	Upper Guide - Inverter Pressure	1
28	A007 4623	Lower Guide - Inverter Pressure	1
29	AF02 5001	Junction Gate	1
30	5053 0447	Bushing - M6	4
31	A007 4600	Side Frame - Inverter Unit	1
32	AF02 2003	Inverter Return Roller	1
33	5304 1639	Bushing - 8mm	1
34	A007 4605	Drive Gear Bracket - Inverter Roller	1
35	AB01 3084	Gear - 23T	1
36	A007 4675	Pressure Solenoid Bracket	1
37	A007 4660	Junction Gate Solenoid Bracket	1
38	5918 2307	Spring - Drive Motor Tension	1
39	AA06 0055	Spring - Inverter Pressure Release	1
40	AA06 0057	Spring - Inverter Pressure	1
41	AA16 1018	Cushion - Duplex Frame	1
42	A007 4655	Junction Gate Lever	1
43	A007 4669	Inverter Pressure Solenoid	1
44	A007 4659	Junction Gate Solenoid	1
45	5887 4162	Screw - Driven Guide Plate	1
46	AA14 5042	Feeler Shaft	1
47	A007 4462	Guide Plate Holder	1
101	0313 0040E	Philips Pan Head Screw - M3x4	
102	0313 0040W	Philips Pan Head Screw - M3x4	
103	0313 0060W	Philips Pan Head Screw - M3x6	
104	0314 0060W	Philips Pan Head Screw - M4x6	
105	0314 0100W	Philips Pan Head Screw - M4x10	
106	0434 0080W	Tapping Screw - M4x8	
107	0574 0060E	Hexagon Headless Set Screw - M4x6	
108	0720 0025E	Retaining Ring - M2.5	
109	0720 0030E	Retaining Ring - M3	
110	0720 0040E	Retaining Ring - M4	
111	0720 0050E	Retaining Ring - M5	
112	0720 0060E	Retaining Ring - M6	
113	0965 3006W	Tapping Screw With Flat Washer - M3x6	
114	0965 4008W	Tapping Screw With Flat Washer - M4x8	

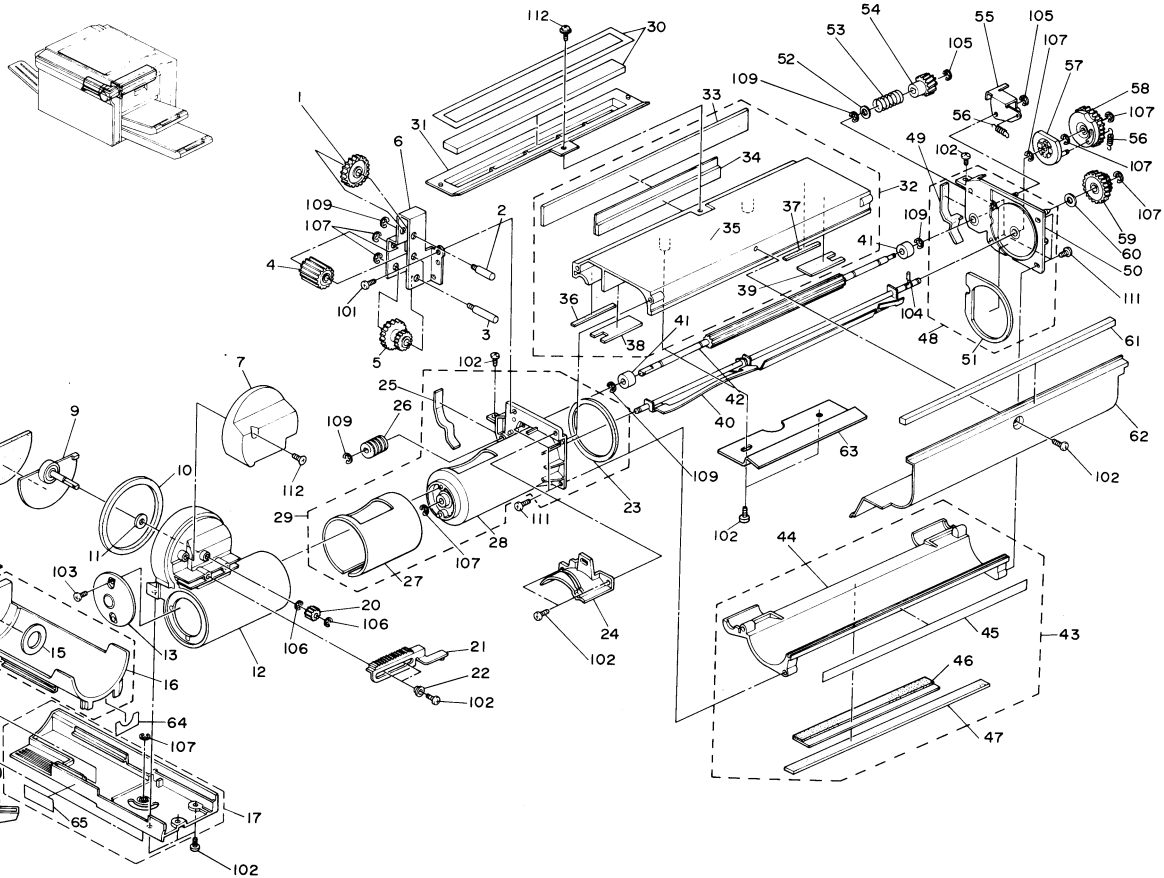

105
1
102
16
106
104
17
36
108
105
19
18
23
105
8
2
20
24
25
108
109
107
21
3
108
28
4
107
26
35
107
106
8
107
7
9
27
34
6
5
22
29
33
108
105
104
30
101
105
107
31
35
107
107
32
34
103
10
105
11
13
12
9
107
14
15
108

13. INVERTOR SECTION 2 (A045/A046)

August 31, '89

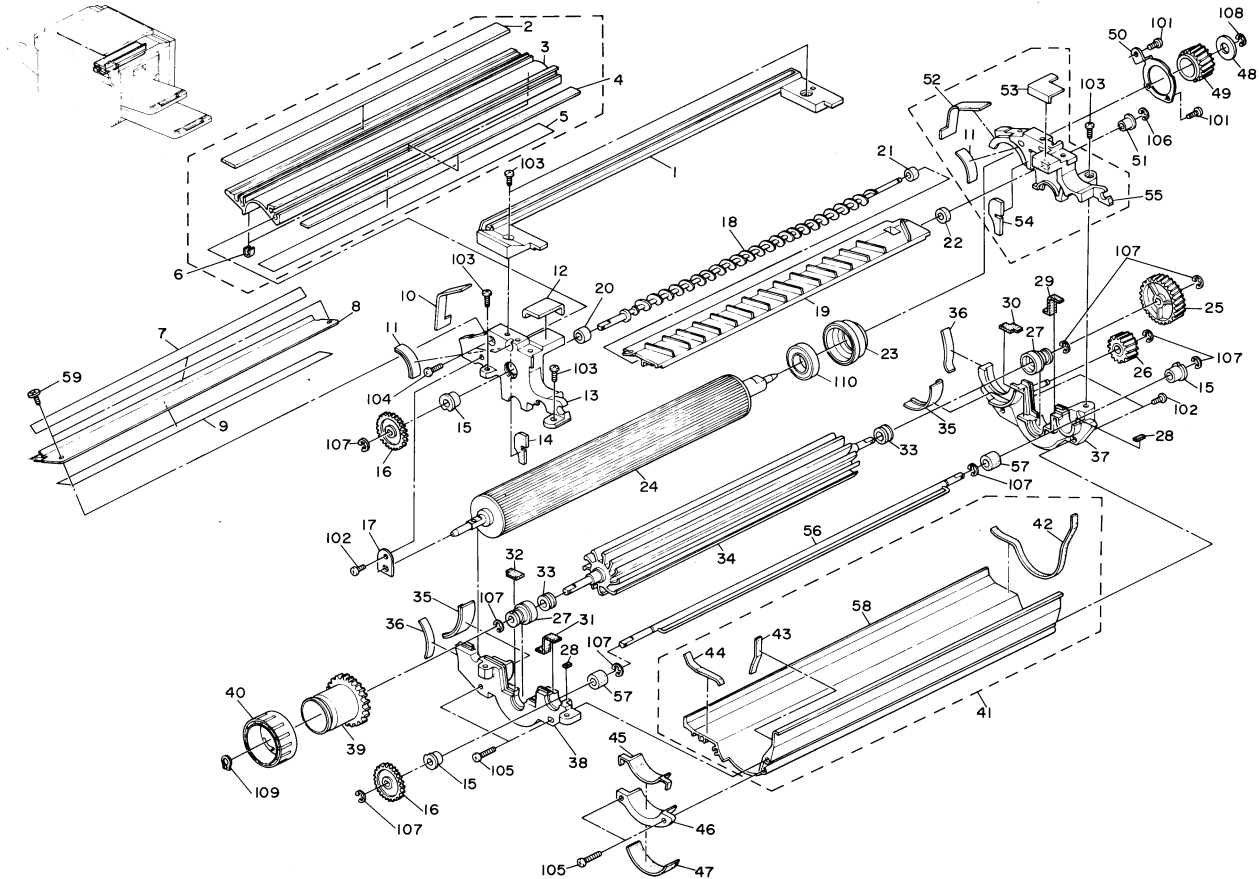
Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 4450	Guide Plate - Inverter Unit	1
2	A007 1140	Bushed Roller Chain - 160P	1
3	5205 1100	Sprocket - 24T	1
4	5205 1105	Chain Tightener	1
5	AA06 0064	Tension Spring	1
6	5442 1110	Sprocket - 20T	1
7	AB01 7031	Sprocket - 16T/36T	1
8	5887 4162	Screw - Driven Guide Plate	2
9	AA13 2025	Spacer - 1x8x12mm	2
10	A007 5231	Transfer Safety Switch	1
11	5206 2850	Bracket - Transfer Safety Switch	1
12	AB01 3083	Gear - 18T	1
13	5205 1101	Sprocket - 12T	1
14	5442 4495	Slip Clutch	1
15	AB02 6006	Sprocket - 23T	1
16	A007 4481	Exit Sensor Bracket	1
17	A007 4484	Exit Sensor Feeler	1
18	5205 5250	LED Sensor Type - S	1
19	A007 5265	LED Sensor Harness	1
20	AB01 3082	Gear - 18T	1
21	AB01 3080	Gear - 27T	1
22	AB01 3081	Gear - 18T - Gap Left	1
23	A007 4478	Guide Plate - Exit Inverter Unit (FT5540,5570)	1
23	A007 5013	Guide Plate - Exit Inverter Unit (FT5550)	1
24	AF02 0030	Inverter Roller	1
25	A007 4487	Exit Guide Plate - Upper	1
26	A007 4492	Paper Exit Feeler	1
27	A007 4490	Paper Exit Feeler Bracket	1
28	AF04 0006	Exit Roller	1
29	5205 4518	Upper Exit Roller	1
30	5205 5251	LED Sensor Type - T	1
31	A007 5261	Harness - Home Sensor	1
32	A007 4485	Exit Guide Plate - Upper	1
33	5206 2808	Anti Static Brush - Duplex Transport	1
34	AA08 0037	Bushing - 6mm	1
35	5205 4527	Spring - Exit	2
36	5304 1639	Bushing - 8mm	1
101	0313 0140W	Philips Pan Head Screw - M3x14	
102	0314 0060W	Philips Pan Head Screw - M4x6	
103	0314 0080W	Philips Pan Head Screw - M4x8	
104	0314 0100W	Philips Pan Head Screw - M4x10	
105	0434 0080W	Tapping Screw - M4x8	
106	0720 0030E	Retaining Ring - M3	
107	0720 0050E	Retaining Ring - M5	
108	0720 0060E	Retaining Ring - M6	
109	0805 3291	Ball Bearing - 8x16x5mm	

14. DEVELOPMENT 1 (A045/A046)



14. DEVELOPMENT 1 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A007 3051	Development Unit	1
*	A007 3199	Toner Supply Unit	1
1	5205 3314	Gear - 20T	1
2	5205 3316	Upper Shaft	1
3	5205 3317	Lower Shaft	2
4	AB01 5001	Gear - 14T	1
5	AB01 7033	Gear - Toner Cartridge Drive	1
6	A007 3391	Cartridge Drive Bracket	1
7	A007 3256	Toner Hopper Pipe Cover	1
8	AA15 1026	Seal - Toner Shutter	1
9	A007 3271	Toner Shutter	1
10	AA15 1024	Seal - Toner Hopper Entrance	1
11	AA15 1025	Seal - Toner Hopper Pipe	1
12	A007 3251	Toner Hopper Pipe	1
13	A007 3290	Toner Hopper Pipe Cover	1
14	5054 0536	Magnet Catch Ass'y	1
15	5205 3374	Positioning Lug - Toner Supply	1
16	A007 3223	Toner Supply Bracket	1
17	A007 3230	Toner Supply Cover	1
18	5205 3421	Seal - Bottle Release Lever	1
19	A007 3286	Bottle Release Lever	1
20	AB01 1017	Gear - 15T	1
21	A007 3281	Toner Shutter Rack	1
22	5403 2048	Bushing - 4mm	1
23	AA15 1039	Seal - 2x51x60	1
24	A007 3388	Rack Guide Bracket	1
25	AA15 1030	Seal - 2x11x75	1
26	AB01 3093	Worm Gear	1
27	AA15 1040	Seal - 3x72x172	1
28	A007 3351	Front Side Plate - Toner Tank	1
29	A007 3350	Front Side Plate Ass'y - Toner Tank	1
30	AA01 2005	Development Filter	1
31	A007 3176	Filter Bracket - Development Unit	1
32	A007 3341	Upper Hopper Case Ass'y	1
33	AA15 1028	Seal - 3x28x308	1
34	AA15 1038	Seal - 4x16x210	1
35	A007 3342	Upper Hopper Case	1
36	AA15 1034	Seal - 2x3x53	1
37	AA15 1035	Seal - 2x3x45	1
38	AA15 1036	Seal - 2x16x53	1
39	AA15 1037	Seal - 2x16x45	1
40	AD03 9001	Toner Agitator	1
41	A007 3311	Seal - Toner Supply Shaft	2
42	AD03 3001	Toner Supply Shaft	1
43	A007 3321	Lower Hopper Case Ass'y	1
44	A007 3322	Lower Hopper Case	1
45	A007 3395	Toner Hopper Casing Sheet	1
46	AA15 1033	Seal - 4x12x211	1
47	AA15 1029	Seal - 2x15x308	1
48	A007 3360	Hopper Side Plate Ass'y - Rear	1
49	AA15 1031	Seal - Toner Hopper	1
50	A007 3361	Hopper Side Plate - Rear	1
51	AA15 1041	Seal - 2x50x58	1
52	AA13 2025	Spacer - 1x8x12mm	1
53	5203 1136	Registration Drive Spring	1
54	AB01 3071	Gear - 16	1
55	A007 3380	Actuator - Toner End	1
56	5442 3233	Spring - Drive Wheel	2
57	A007 3376	Cam Wheel - Toner End	1
58	AB01 3102	Gear - 47T	1
59	AB01 7032	Idler Gear - Toner Hopper Rear	1
60	AA13 2024	Spacer - M6	1
61	AA15 1023	Seal - 8x8x278	1
62	A007 3195	Guide Plate - Development Unit	1
63	A007 3343	Toner Agitator Scraper	1
64	5205 3373	Plate Spring - Toner Supply Bracket	1
65	A007 3224	Decal - Adding Toner	1
101	0314 0060W	Philips Pan Head Screw - M4x6	
102	0314 0080W	Philips Pan Head Screw - M4x8	
103	0344 0060D	Philips Truss Head Screw - M4x6	
104	0622 0060E	Spring Pin - 2x6mm	
105	0720 0030E	Retaining Ring - M3	
106	0720 0040E	Retaining Ring - M4	
107	0720 0050E	Retaining Ring - M5	
108	0720 0070E	Retaining Ring - M7	
109	0720 0060E	Retaining Ring - M6	
110	0802 5085	Tapping Screw - M4x8	
111	0802 5086	Tapping Screw - M4x10	
112	0951 4008W	Philips Screw With Flat Washer - M4x8	


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
101
102
103
104
105
106
107
108
109
110

15. DEVELOPMENT 2 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 3198	Development Unit Guide	1
2	AA15 1060	Seal - 3x16x310	1
3	AD03 0001	Doctor Blade	1
4	AA15 1059	Seal - 2x8x310	1
5	A007 3162	Sea1 - Doctor Blade 1	1
6	5215 3162	Side Seal - Doctor Blade	2
7	A007 3194	Guide Plate - Anti Static Brush	1
8	AA15 1022	Anti-Static Brush-Development Unit	1
9	A007 3191	Entrance Seal Retainer	1
10	AA15 1063	Right Development Seal	1
11	A007 3082	Seal Plate - Upper Side Plate	2
12	AA15 1056	Seal - 3x27x39	1
13	A007 3141	Front Upper Side Plate	1
14	AA15 1057	Separator Seal - Rear	1
15	5205 3103	Bushing - 6mm	3
16	5215 3167	Gear - 25T	2
17	A007 3128	Adjusting Plate - Magnet Angle	1
18	AD03 7001	Development Anger	1
19	AD03 6001	Back Spill Plate	1
20	AA15 1061	Seal - 6x16x310	1
21	AA15 1062	Seal - 3x10x6.5	1
22	5215 3180	Seal - Ring	1
23	AA08 4003	Holder - Development Roller Bearing	1
24	AD03 1020	Development Roller	1
25	AB01 3091	Gear - 39T	1
26	A007 3135	Idle Gear - 17T	1
27	AA08 0010	Bushing - 6mm	2
28	AA15 1046	Seal - 2x2x5	2
29	AA15 1052	Lower Side Plate Seal - Large	1
30	AA15 1051	Seal - 2x5x10	1
31	AA15 1048	Seal - 2x5x28	1
32	AA15 1047	Seal - 2x5x10	1
33	5219 3326	Rubber Seal - Paddle Roller	2
34	AD03 8002	Paddle Roller	1
35	A007 3062	Seal Plate - Lower Side Plate	2

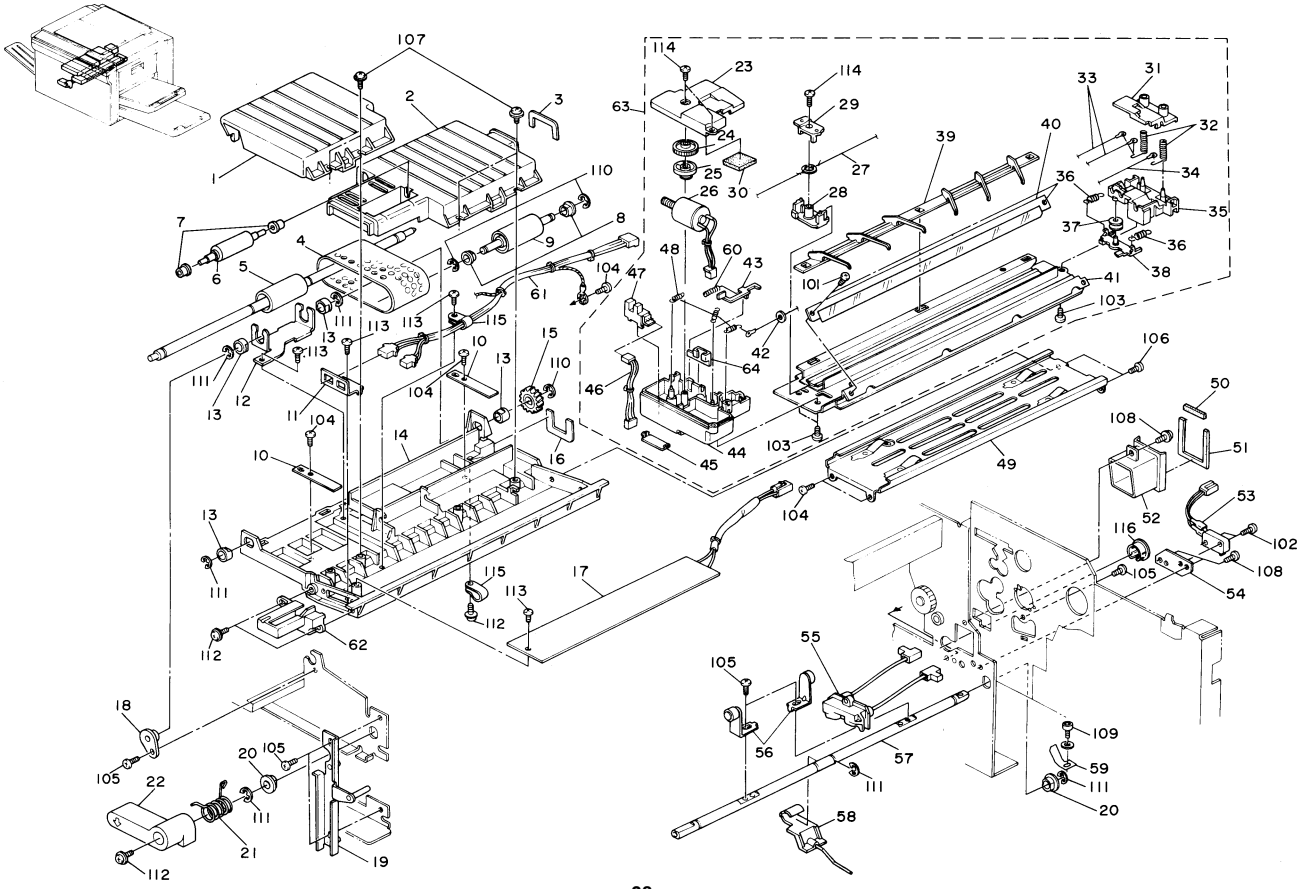
Index No.	Part No.	Description	Q'ty Per Assembly
36	AA15 1021	Seal - 3x7x55	2
37	A007 3071	Rear Lower Side Plate	1
38	A007 3061	Front Lower Side Plate	1
39	5215 3101	Gear - 44T	1
40	5215 3089	Developer Knob	1
41	A007 3054	Development Bottom Plate Ass'y	1
42	AA15 1042	Seal - 3x5x142	1
43	AA15 1044	Seal - 3x8x40	1
44	AA15 1045	Seal - 3x5x41	1
45	AA15 1049	Seal - 2x17x94	1
46	A007 3075	Side Plate Bracket - Dev Unit	1
47	AA15 1050	Seal - 2x12x64	1
48	AA13 2020	Spacer - 8.5x20x0.5mm	1
49	AB01 3092	Gear - 24T	1
50	A007 3126	Bearing Retainer	1
51	AA08 0015	Bushing - 3x6x6mm	1
52	AA15 1020	Seal - 2x16x20	1
53	AA15 1058	Seal - 3x27x28	1
54	AA15 1055	Separator Seal - Front	1
55	A007 3151	Rear Upper Side Plate	1
56	AD03 9003	Toner Agitator	1
57	AA15 1053	Seal - 6x12x7	2
58	A007 3055	Development Bottom Plate	1
59	5894 2540	Arm Screw	2

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0050W	Philips Pan Head Screw - M3x5	
102	0314 0080W	Philips Pan Head Screw - M4x8	
103	0314 0100W	Philips Pan Head Screw - M4x10	
104	0314 0200W	Philips Pan Head Screw - M4x20	
105	0434 0100W	Tapping Screw - M4x10	
106	0720 0025E	Retaining Ring - M2.5	
107	0720 0050E	Retaining Ring - M5	
108	0720 0060E	Retaining Ring - M6	
109	0727 0050E	Retaining Ring - M5	
110	0805 3410	Ball Bearing - 15x28x7mm	

Index No.	Part No.	Description	Q'ty Per Assembly

16. TRANSFER AND SEPARATION (A045/A046)

August 31, '89



16. TRANSFER AND SEPARATION (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 3905	Transport Guide Plate - Front	1
2	A007 3907	Transport Guide Plate - Rear	1
3	AA15 1070	Seal - Transport Upper	1
4	AA04 0007	Transport Belt	1
5	A007 3971	Drive Roller - Transport Belt	1
6	5215 3942	Transport Guide Roller	1
7	5443 2668	Bushing	2
8	5053 0447	Bushing - M6	2
9	A007 3915	Drive Roller	1
10	A007 3911	Leaf Spring - Transport	2
11	A007 3882	Connector Bracket	1
12	A007 3974	Transport Drive Shaft Bracket	1
13	5215 3931	Bushing - 8mm	4
14	A007 3901	Base Plate - Transport Unit	1
15	AB01 1005	Gear - 18T	1
16	AA15 1071	Seal - Transport Lower	1
17	A007 5405	Drum Heater	1
18	AA08 0017	Supporter - Drive Roller	1
19	A007 5007	Fixed Holder - Toner Tray	1
20	5053 0223	Bushing - 8mm	2
21	AA06 6021	Transport Lever Spring	1
22	A007 3939	Transport Lever	1
23	AD02 2023	Front End Block Cover - T&C	1
24	AB01 0011	Gear - 56T	1
25	AB03 2014	Cleaner Drive Pulley	1
26	A008 5321	Motor - DC 5V/1.3W	1
27	A007 3872	Cleaner Drive Wire - Separation	1
28	A007 3868	Separation Cleaner Slider	1
29	A007 3863	Separation Corona Cleaner	1
30	A008 2091	Support Pad - Cleaner Motor	1
31	AD02 2025	Rear End Block Cover - T&C	1
32	AD02 4003	Termianl Spring - T&S	2
33	A007 9004	Separation Corona Wire (10pcs/set)	1
34	A007 9003	Tramsfer Corona Wire (10pcs/set)	1
35	AD02 2024	Rear End Block - T&S	1

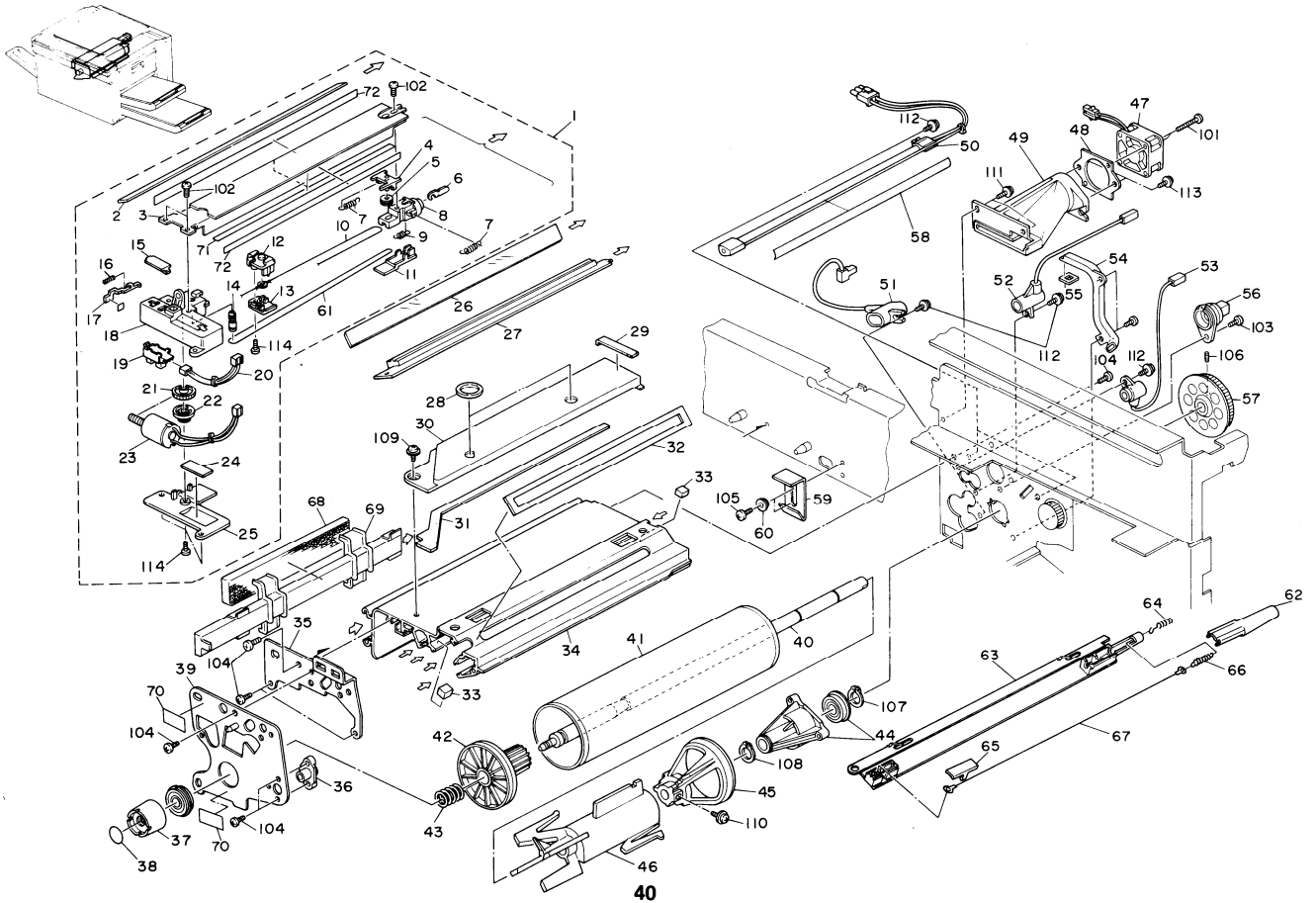
Index No.	Part No.	Description	Q'ty Per Assembly
36	AA06 0045	Tension Cleaner Spring	2
37	AB03 2015	Cleaner Idler Pulley	1
38	A007 3870	Tension Bracket - Wire Cleaner	1
39	A007 3867	Paper Guide - T&S Corona	1
40	5215 2119	T&S Corona Guide Plate	1
41	AD02 3015	T&S Corona Casing	1
42	5219 9060	Plastic Ring - 3x6x1mm (10pcs/set)	1
43	A007 3875	Sensor Feeler - Separation Corona	1
44	AD02 2022	Front End Block - T&C	1
45	A008 2090	Suppert - Cleaner Sensor	1
46	AZ40 0004	Photointerruptor Harness	1
47	5216 5245	Photointerrupter - IL-G-3P-S3T2-E	1
48	5446 3944	Spring - Charge Wire PCC	3
49	A007 3877	T&S Corona Casing	1
50	AA15 1073	Seal - 3x5x30	1
51	AA15 1074	Seal - 3x4x122	1
52	A007 3927	Transport Duct	1
53	A007 5231	Transfer Safety Switch	1
54	A007 3941	Transport Switch Bracket	1
55	AD02 1057	T&S Corona Receptacle	1
56	A007 3934	Transport Lock Lever	2
57	AA14 0057	Transport Lock Shaft	1
58	A007 4750	Low Shaft Guide - Transport	1
59	A007 3932	Leaf Spring - Micro Switch	1
60	AA06 3020	Feeler Spring	1
61	A007 5214	Transport Unit Harness	1
62	A007 3883	T&S Corona Cover	1
63	AD00 4006	T&S Corona Unit	1
64	A007 3862	Feeler Holder	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0313 0120W	Philips Pan Head Screw - M3x12	
103	0314 0050W	Philips Pan Head Screw - M4x5	
104	0314 0060W	Philips Pan Head Screw - M4x6	
105	0314 0080W	Philips Pan Head Screw - M4x8	
106	0314 0200W	Philips Pan Head Screw - M4x20	
107	0414 0082W	Tapping Screw With Flat Washer - M4x8	
108	0434 0080W	Tapping Screw - M4x8	
109	0594 0060W	Hexagon Bolt - M4x6	
110	0720 0050E	Retaining Ring - M5	
111	0720 0060E	Retaining Ring - M6	
112	0951 4008W	Philips Screw With Flat Washer - M4x8	
113	0965 4008W	Tapping Screw With Flat Washer - M4x8	
114	0971 3006A	Philips Polycarbonate Screw - M3x6	
115	1105 0005	Nylon Clip - 3N	
116	1106 0430	Bushing - 13mm	

Index No.	Part No.	Description	Q'ty Per Assembly

17. DRUM SECTION 1 (A045/A046)

August 31, '89



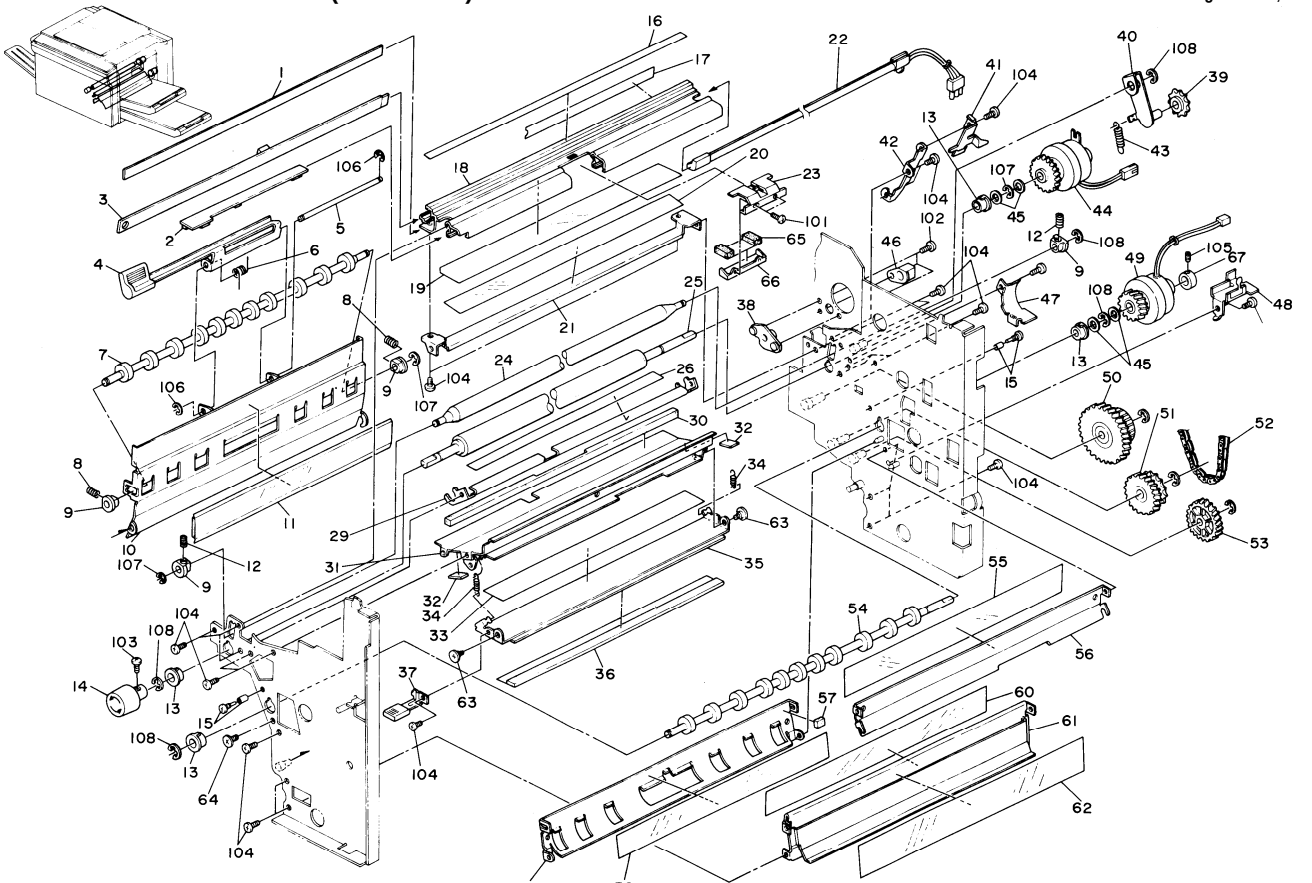
17. DRUM SECTION 1 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AD00 4003	Charge Corona Unit	1
2	AA01 1005	PTL Filter	1
3	AD02 3008	Charge Corona Casing	1
4	A008 2080	Pulley Support - Charge Corona	1
5	AB03 2015	Cleaner Idler Pulley	1
6	5442 2110	Plug - Corona Unit	1
7	AA06 0045	Tension Cleaner Spring	2
8	AD02 2012	Rear End Block - Charge Corona	1
9	5442 2108	Spring - Corona Wire	1
10	A008 2095	Slider Drive Wire	1
11	AD02 2014	Rear Cover - Charge Corona	1
12	A008 2084	Cleaner Slider	1
13	A008 2085	Cleaner - Charge Corona	1
14	AD02 4001	Adjusting Screw	1
15	A008 2090	Support - Cleaner Sensor	1
16	AA06 3020	Feeler Spring	1
17	AA11 1001	Charge Corona Feeler	1
18	AD02 2011	Front End Block - Charge Corona	1
19	5216 5245	Photointerrupter - IL-G-3P-S3T2-E	1
20	AZ40 0004	Photointerruptor Harness	1
21	AB01 0011	Gear - 56T	1
22	AB03 2014	Cleaner Drive Pulley	1
23	A008 5321	Motor -DC 5V/1.3W	1
24	A008 2091	Support Pad - Cleaner Motor	1
25	AD02 2013	Front Cover - Charge Corona	1
26	AC01 5001	Dust Proof Glass	1
27	AX50 0010	Eraser	1
28	5219 3312	Seal - Agitator	2
29	AA15 1030	Seal - 2x11x75	1
30	A007 2152	Air Guide Plate	1
31	AA15 1068	Seal - 2x7x357	1
32	AA15 1067	Seal - 2x8x310	2
33	AA15 1065	Seal - C&D Rail	2
34	A007 2051	C&D Rail	1
35	A007 2121	Drum Stay Support Bracket	1

Index No.	Part No.	Description	Q'ty Per Assembly
36	5442 3154	Holder - Development Unit	1
37	A007 2140	Drum Shaft Knob	1
38	A007 6811	Decal - Drum Shaft Knob	1
39	A007 2133	Drum Stay Support Plate	1
40	AA14 0054	Drum Support Shaft	1
41	5205 9510	Drum	1
42	A007 2145	Front Drum Flange	1
43	AA06 3018	Drum Flange Spring	1
44	A007 2137	Drum Stay Support Bracket	1
45	5211 2285	Rear Flange	1
46	A007 2208	Drum Guide	1
47	AX04 0006	Blower Fan	1
48	A007 2149	Bracket - Blower	1
49	A007 2146	Blower Duct	1
50	AX50 0011	Quinching Lamp	1
51	AD02 1007	Receptacle - PCC	1
52	AD02 1008	Receptacle - PQC	1
53	AD02 1009	Bias Receptacle	1
54	A007 2155	ID Sensor Duct	1
55	AA15 1066	Seal - Sensor Duct	1
56	AD02 1012	Main Corona Receptacle	1
57	A007 2267	Drum Drive Pulley - 112V	1
58	AA01 1008	QL - Filter	1
59	A007 3197	Development Unit Clamp	1
60	5403 2048	Bushing - 4mm	1
61	A008 9001	Main Corona Wire (10pcs/set)	1
62	AD02 2019	Rear Cover - PCC End Block	1
63	A007 3690	PQC - Casing	1
64	AA06 3025	PQC Terminal Spring	1
65	AD02 2017	Front Cover FCC End Block	1
66	5442 2108	Spring - Corona Wire	1
67	A007 9002	PCC/PQC Corona Wire - (10pcs/set)	1
68	AA01 0009	Ozone Filter - 234x60x13	1
69	A007 3791	Ozone Filter Bracket	1
70	5434 7916	High Voltage Decal	1

Index No.	Part No.	Description	Q'ty Per Assembly
71	A007 2078	Upper Charge Corona Sheet	2
72	A007 2079	Side Charge Corona Sheet	2

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0350W	Philips Pan Head Screw - M3x35	
102	0314 0050W	Philips Pan Head Screw - M4x5	
103	0314 0080W	Philips Pan Head Screw - M4x8	
104	0434 0060W	Tapping Screw - M4x6	
105	0434 0080W	Tapping Screw - M4x8	
106	0574 0060E	Hexagon Headless Set Screw - M4x6	
107	0725 0100E	Retaining Ring C - M10	
108	0725 0120E	Retaining Ring C - M12	
109	0951 4008W	Philips Screw With Flat Washer - M4x8	
110	0951 4012W	Philips Screw With Flat Washer - M4x12	
111	0951 4006W	Philips Screw With Flat Washer - M4x6	
112	0951 4008W	Philips Screw With Flat Washer - M4x8	
113	0965 4008W	Tapping Screw With Flat Washer - M4x8	
114	0971 3006A	Philips Polycarbonate Screw - M3x6	



18. DRUM SECTION 2 (A045/A046)

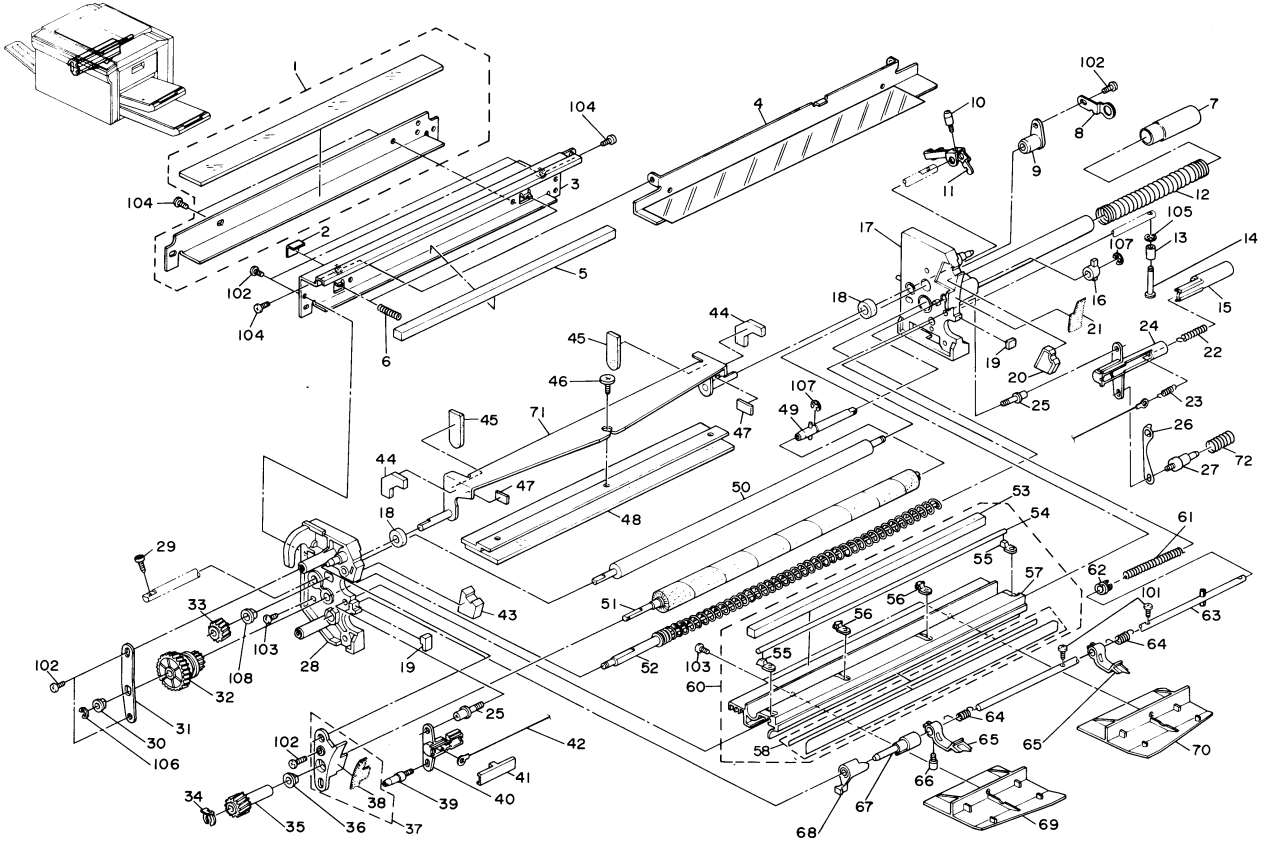
Index No.	Part No.	Description	Q'ty Per Assembly
1	AA01 1005	PTL Filter	1
2	AW40 0005	Paper Registration Sensor	1
3	AW40 0003	Toner Density Sensor	1
4	A007 2606	Release Transport Guide Lever	1
5	5205 2691	Shaft - Paper Guide Plate	1
6	5205 2694	Spring - Paper Guide Plate	1
7	AF02 0024	Lower Middle Roller	1
8	AA06 3041	Relay Roller Spring	2
9	5205 2697	Bushing - Upper Registration Roller	4
10	A007 2592	Transport Guide	1
11	A007 2597	Cushion Transport Guide	1
12	5442 2754	Spring - Registration Roller	2
13	5215 2672	Bushing	4
14	A007 2577	Registration Knob	1
15	5887 4162	Screw - Driven Guide Plate	2
16	A007 2110	PTL Guide Sheet	1
17	A007 2109	PTL Guide Cover	1
18	A007 2101	PTL Guide	1
19	5215 2281	Mylar Seal - Guide PTL Cover	1
20	A007 3886	PTL Guide Plate	1
21	A007 3885	PTL Guide Holder	1
22	AX50 0008	PRE - Transfer Lamp 430V/1.3W	1
23	A007 2783	Paper Dust Scraper Paper	1
24	AF02 0021	Upper Registration Roller	1
25	AF02 0022	Lower Registration Roller	1
26	A007 2637	Lower Registration Guide	1
29	A007 2614	Registration Lower Guide	1
30	AA15 1069	Seal - 10x12x370	1
31	A007 2616	Registration Upper Guide	1
32	A007 2628	Cushion - Registration Upper Guide	2
33	A007 2620	Transport Middle Guide - Upper	1
34	5205 2579	Spring - Guide	2
35	A007 2619	Transport Middle Guide	1
36	A007 2626	Cushion - Transport Middle	1
37	A007 2632	Knob - Transport Middle Guide	1

Index No.	Part No.	Description	Q'ty Per Assembly
38	A007 2129	Development Rear Holder	1
39	AB02 3018	Sprocket - 15T	1
40	A007 2903	Chain Tightener	1
41	A007 2116	Density Sensor Connector Bracket	1
42	A007 2115	Density Sensor Bracket	1
43	AA06 0050	Tightener Spring	1
44	AX20 0017	Magnetic Clutch - Registration	1
45	AA13 2025	Spacer - 1x8x12mm	4
46	A007 3480	Development Bias Receptacle	1
47	A007 2909	Bushed Roller Guide Bracket	1
48	A007 2713	Magnetic Clutch Stopper	1
49	AX20 0021	Transport Magnetic Clutch	1
50	A007 1114	Pulley & Gear - 36T/45T	1
51	AB01 7020	Drive Gear	1
52	A007 2910	Bushed Roller Chain - 106P	1
53	AB01 3068	Gear - 30T	1
54	AF02 0023	Upper Middle Roller	1
55	A007 2623	Separate Duplex Guide	1
56	A007 2622	Separate Lower Guide	1
57	A007 2608	Cushion - Transport Upper Guide	1
58	A007 2604	Transport Upper Guide	1
59	A007 2605	Guide - Transport AID	1
60	A007 2644	Paper Bank AID 2 - Duplex	1
61	A007 2640	Paper Bank Guide - Duplex	1
62	A007 2643	Paper Bank AID 1 - Duplex	1
63	5403 2075	Stepped Screw	2
64	5840 1632	Stepped Screw	1
65	A007 2782	Paper Dust Scraper	1
66	A007 2781	Paper Dust Scraper Bracket	1
67	5205 2866	Magnetic Clutch Collar	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0314 0080W	Philips Pan Head Screw – M4x8	
103	0314 0100W	Philips Pan Head Screw - M4x10	
104	0434 0080W	Tapping Screw - M4x8	
105	0574 0050E	Hexagon Headless Set Screw - M4x5	
106	0720 0040E	Retaining Ring - M4	
107	0720 0050E	Retaining Ring - M5	
108	0720 0060E	Retaining Ring - M6	

Index No.	Part No.	Description	Q'ty Per Assembly

19. CLEANING UNIT 1 (A045/A046)



19. CLEANING UNIT 1 (A045/A046)

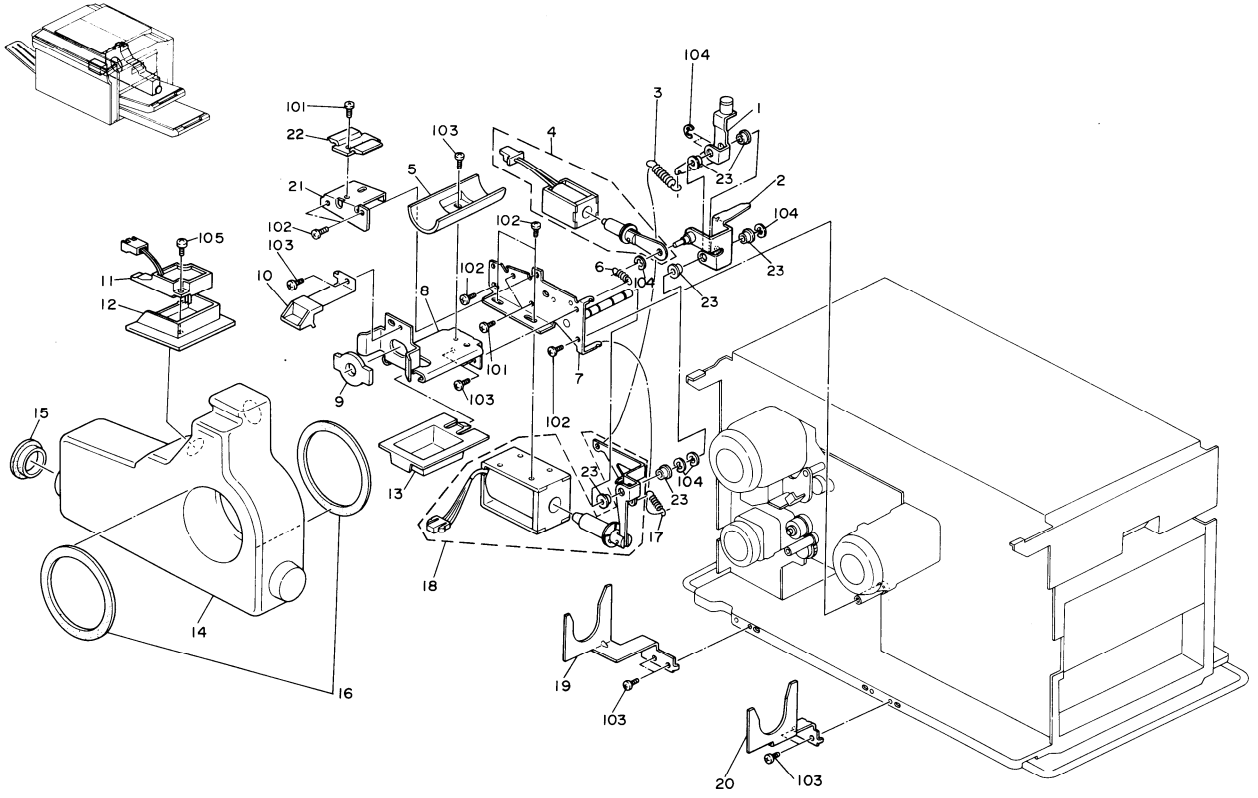
Index No.	Part No.	Description	Q'ty Per Assembly
*	AD00 2003	Cleaning Unit	1
*	A007 9501	Cleaning Brush Set	1
1	A012 3580	Bias Roller Blade	1
2	A007 3583	Seal - Upper Casing	2
3	A007 3582	Upper Casing - Cleaning Unit	1
4	A007 3584	Cleaning Blade Cleaner	1
5	AA15 1080	Seal - 12x10x318	1
6	AA06 3023	Cleaning Blade Spring	1
7	5446 3619	Toner Receiving Pipe	1
8	A007 3614	Spring Brush - Bias Roller	1
9	AA08 2006	Bushing Bias Roller	1
10	5413 3903	Pin - Transfer Guide Plate	1
11	A007 3642	Pressure Arm - Cleaning Blade	1
12	AA06 3024	Toner Receiving Spring	1
13	5418 2116	Spacer - Guard	1
14	A009 3689	Actuator - Pick-off Pawl	1
15	AD02 2019	Rear Cover - PCC End Block	1
16	A007 3572	Cleaning Brush Joint	1
17	A007 3561	Rear Side Plate - Cleaning	1
18	5442 3593	Seal - Cleaning Balde Shaft	2
19	AA15 1078	Rubber Seal - Cleaning	2
20	AA15 1079	Seal - Blade Rear	1
21	AA15 2005	Side Seal - Cleaning Rear	1
22	AA06 3025	PQC Terminal Spring	1
23	5442 2108	Spring - Corona Wire	1
24	AD02 2018	Rear End Block - PCC	1
25	AA14 3032	Positioning Stud - End Block	2
26	A007 3655	Cleaning Grounding Plate	1
27	AA14 3235	Rear Position Pin	1
28	A007 3551	Front Side Plate - Cleaning	1
29	AA14 3029	Blade Swing Pin	1
30	0742 3906	Ball Bearing - 6mm	1
31	A007 3685	Ger Support Bracket Cleaning	1
32	AB01 7027	Cam Gear - 34/21T	1
33	AB01 1011	Gear - 14T	1

Index No.	Part No.	Description	Q'ty Per Assembly
34	5447 2681	Snap Ring	1
35	AB01 1010	Gear - 16T	1
36	5446 3707	Bushing - 6x10x6mm	1
37	A007 3602	Cleaning Brush Holder	1
38	AA15 2006	Side Seal - Cleaning Front	1
39	AA14 3030	Front Position Pin	1
40	AD02 2016	Front End Block - PCC	1
41	AD02 2017	Front Cover - PCC End Block	1
42	A007 9002	PCC/PQC Colona Wire (10pcs/set)	1
43	AA15 1077	Seal - Blade Front	1
44	AA15 1085	Seal - Outer	2
45	AA15 1083	Seal - Inner	2
46	5446 3648	Stepped Screw - M4	1
47	AA15 1082	Seal - 11x16x2	2
48	5205 3565	Cleaning Blade	1
49	A007 3570	Cleaning Brush Drive Shaft	1
50	AD04 5001	Cleaning Brush Roller	1
51	AD04 2006	Cleaning Brush	1
52	AD04 3004	Toner Collection Coil	1
53	A008 3624	Seal - Cleaning Unit Casing	1
54	A008 3558	Beater Bar	1
55	A007 3593	Outer Holder - Beater Bar	2
56	A007 3594	Inner Holder - Beater Bar	2
57	A007 3591	Lower Casing - Cleaning Unit	1
58	A007 9006	Cleaning Unit Seal	1
60	A007 3590	Lower Casing Ass'y - Cleaning Unit	1
61	5442 3904	Spring - Pick-off Pawl Slide	1
62	5205 3981	Collar	1
63	5205 3958	Pick-off Pawl Shaft	1
64	5205 3965	Spring	2
65	AD02 5001	Pick-off Pawl	2
66	5205 3966	Set Screw	2
67	5205 3975	Cam	1
68	5205 3950	Cam	1
69	A008 3611	Front Pick-off Guide Plate	1

Index No.	Part No.	Description	Q'ty Per Assembly
70	A008 3612	Rear Pick-off Guide Plate	1
71	A007 3631	Cleaning Blade Holder	1
72	AA06 3127	Spring - Positioning Pin	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0314 0080W	Philips Pan Head Screw - M4x8	
103	0314 0120W	Philips Pan Head Screw - M4x12	
104	0434 0080W	Tapping Screw - M4x8	
105	0720 0025E	Retaining Ring - M2.5	
106	0720 0030W	Retaining Ring - M3	
107	0720 0040E	Retaining Ring - M4	
108	0734 0607D	Bushing - 6x7	

20. CLEANING UNIT AND TONER COLLECTION (A045/A046)

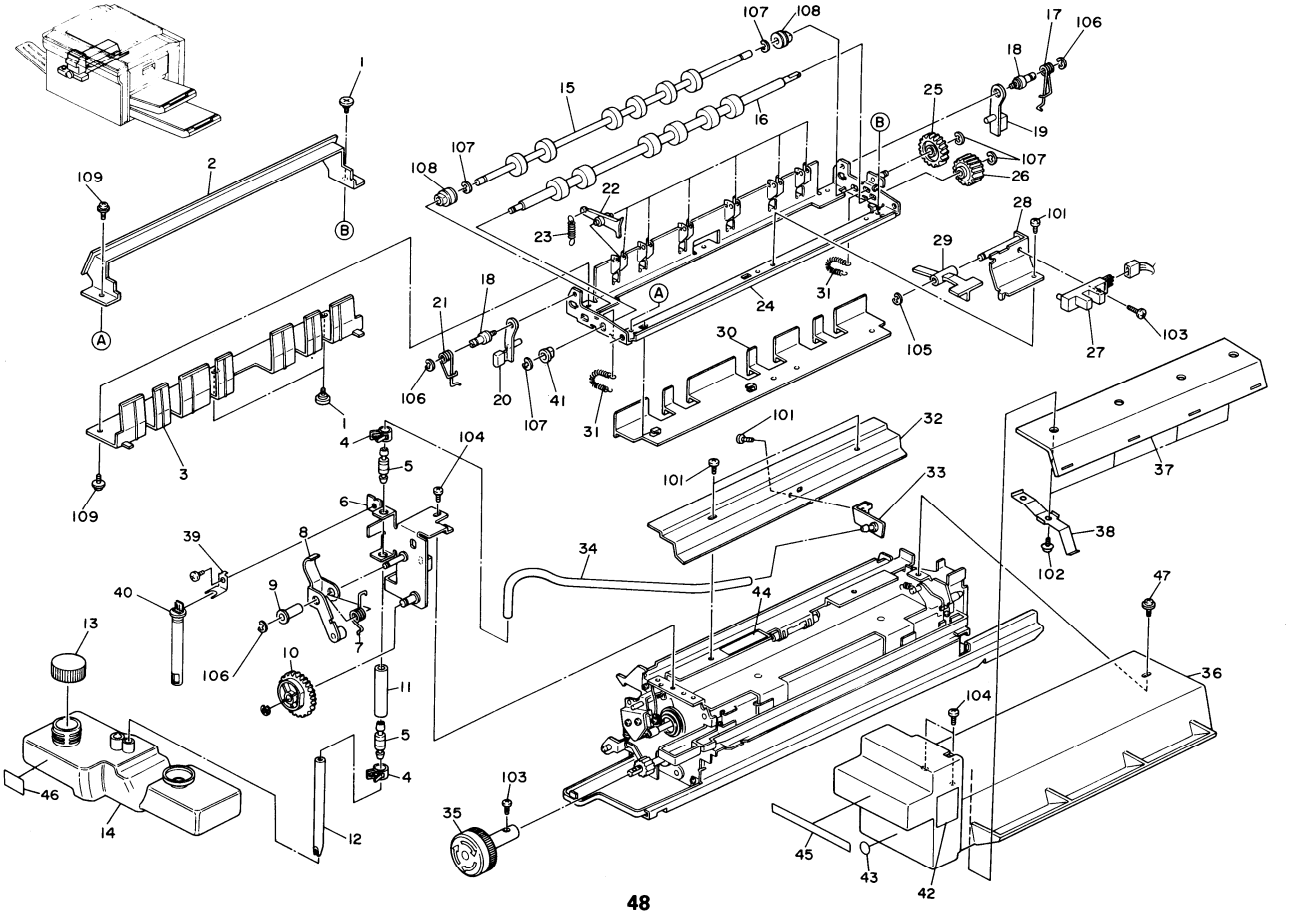


20. CLEANING UNIT AND TONER COLLECTION (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 3713	Pressure Lever	1
2	A007 3717	Pick-off Pawl Lever	1
3	AA06 3031	Spring - Cleaning Blade	1
4	A007 3712	Pick-off Solenoid	1
5	A007 3784	Pipe - Toner Collection Receiver	1
6	5413 1812	Spring - Drum Return Arm	1
7	A007 3705	Blade Solenoid Bracket	1
8	A007 3780	Toner Collection Bracket	1
9	AA15 1075	Seal - Toner Collection	1
10	A007 3770	Leaf Spring - Toner Collection Tank	1
11	5215 5304	Toner Overflow Sensor	1
12	A007 3762	Sensor Holder	1
13	A007 3783	Toner Receiver Collection	1
14	AA03 2002	Toner Collection Tank (220/240V)	1
14	AA03 2007	Toner Collection Tank (115V)	1
15	A007 3751	Cap Large - Toner Collection Tank	1
16	AA15 1076	Seal - Toner Collection Tank	2
17	5433 3785	Spring	1
18	A007 3724	Blade Solenoid	1
19	A007 3781	Right Bracket - Toner Collection	1
20	A007 3782	Left Bracket - Toner Collection	1
21	A007 3727	Bracket - Pick-Pff Pawl Solenoid	1
22	A007 3709	Clamp - T&S Corona Receptacle	1
23	5203 1852	Bushing - 6x8x4mm	6

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0314 0080W	Philips Pan Head Screw - M4x8	
103	0434 0080W	Tapping Screw - M4x8	
104	0720 0040E	Retaining Ring - M4	
105	0965 3006W	Tapping Screw With Flat Washer - M3x6	

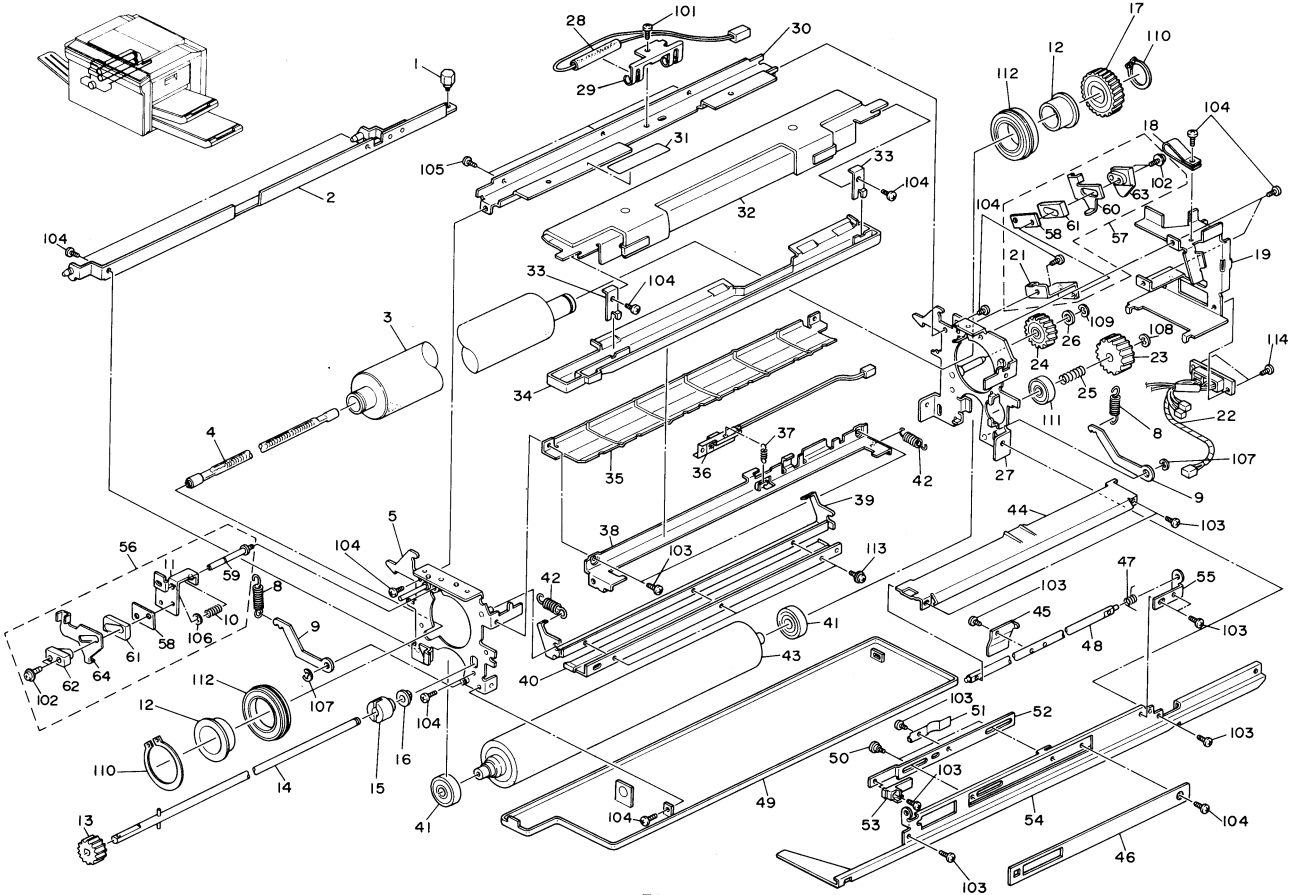
21. FUSING UNIT 1 (A045/A046)



21. FUSING UNIT 1 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A007 4017	Fusing Unit - 115V	1
*	A007 4027	Fusing Unit - 220V	1
1	5840 1632	Stepped Screw	3
2	A007 4325	Fusing Exit Guide Plate	1
3	A007 4323	Upper Exit Guide	1
4	5447 4241	Tube Clamp	2
5	5415 4310	Valve - Oil Pump	2
6	A007 4240	Oil Supply Bracket	1
7	AA06 6012	Spring - Oil Pump Actuator	1
8	A007 4251	Oil Pump Actuator	1
9	AA08 0016	Bushing - 5x7x16	1
10	AB01 7038	Gear - 32T	1
11	AA18 0007	Sleeve - Oil Pump	1
12	AA18 0001	Oil Tube - 7.8mm	1
13	AA03 6003	Oil Bottle Cap	1
14	AA03 1001	Oil Tank	1
15	5209 4470	Upper Exit Roller	1
16	AF04 0005	Lower Exit Roller	1
17	5442 4464	Spring - Rear Release Lever	1
18	5442 4444	Stud - Exit Ass'y Release Lever	2
19	A008 4344	Rear Lever - Fusing Exit	1
20	A008 4341	Front Lever - Fusing Exit	1
21	5442 4463	Spring - Front Release Lever	1
22	A007 9005	Hot Roller Stripper (6pcs/set)	1
23	5214 4122	Stripper Spring	6
24	A007 4310	Fusing Exit Frame	1
25	AB01 3062	Gear - 19T	1
26	AB01 3090	Gear - 17T	1
27	5205 5251	LED Sensor Type - T	1
28	A007 4332	Fusing Exit Sensor Bracket	1
29	A007 4331	Fusing Exit Sensor Feeler	1
30	A007 4322	Lower Exit Guide	1
31	5415 4457	Spring - Exit	2
32	5215 4208	Spring Plate - Oil Supply Pad	1
33	A007 4228	Silicon Oil Nozzle	1
34	AA18 0008	Oil Tube 320mm	1
35	AG05 0019	Fusing Unit Knob	1
36	A007 4229	Fusing Unit Cover	1
37	AA17 2003	Heat Shielding Sheet	1
38	A007 4232	Leaf Spring - Heat Shield	1
39	A007 4253	Leaf Spring - Oil End Sensor	1
40	5209 5320	Oil End Sensor	1
41	5053 0447	Bushing - M6	1
42	5442 6126	Decal - High Temperature (220/240V)	1
42	5442 7043	Small Decal - High Temperature (115V)	1
43	AA00 1054	Decal - B3	1
44	5215 4211	Decal - Thermofuse	1
45	AA00 1071	Grip Decal - Fusing Cover	1
46	AA00 0017	Decal - Oil Tank - English	1
47	5919 2201	Shoulder Screw - M4	1
101	0314 0060W	Philips Pan Head Screw - M4x6	
102	0413 0062W	Tapping Screw - M3x6	
103	0314 0100W	Philips Pan Head Screw - M4x10	
104	0434 0080W	Tapping Screw - M4x8	
105	0720 0030E	Retaining Ring - M3	
106	0720 0040E	Retaining Ring - M4	
107	0720 0050E	Retaining Ring - M5	
108	0805 3399	Bushing - 6x10x8mm	
109	0951 4006W	Philips Screw With Flat Washer - M4x6	

22. FUSING UNIT 2 (A045/A046)



22. FUSING UNIT 2 (A045/A046)

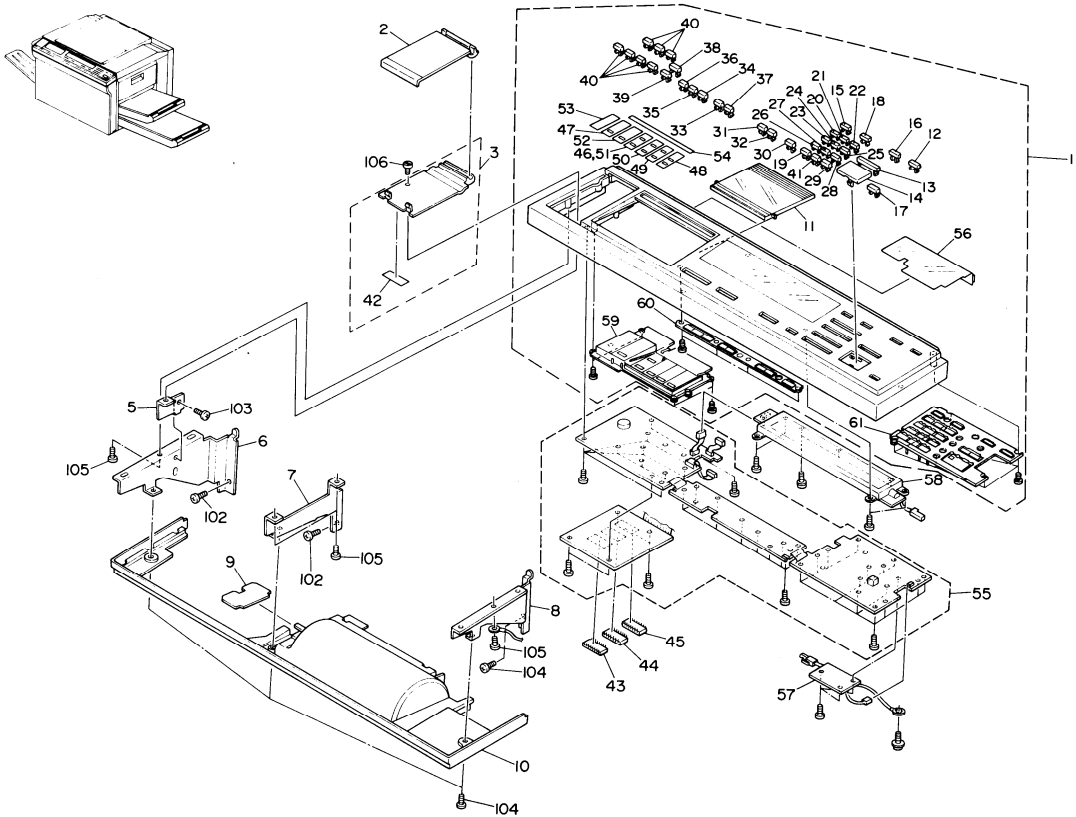
Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 4217	Fusing Unit Stopper	1
2	A007 4212	Left Fusing Rail	1
3	AE01 1001	Hot Roller	1
4	AX44 0008	Heater - 750W - 115V	1
4	AX44 0009	Heater - 800W - 220V	1
5	A007 4161	Fusing Side Frame - Front	1
8	AA06 0051	Pressure Spring	2
9	A007 4171	Pressure Lever	2
10	AA06 3022	Spring - Front Lamp Terminal	1
11	A007 4273	Front Lamp Terminal Bracket	1
12	AE03 2001	Bushing - 20mm	2
13	5209 4408	Gear - 16T	1
14	5209 4149	Fusing Unit Shaft	1
15	5205 4135	Fusing Shaft Collar	1
16	5053 0223	Bushing - 8mm	1
17	AB01 3076	Gear - 36T	1
18	AA11 5003	Wire Clamp	1
19	A007 4192	Fusing Connector Bracket	1
21	5442 4201	Rear Bracket - Lamp Terminal	1
22	A007 5540	Fusing Unit Harness	1
23	AB01 3060	Gear - 27T	1
24	AB01 3267	Gear - 17T	1
25	5442 4152	Spring - Fusing Drive	1
26	AA13 2024	Spacer - M6	1
27	A007 4151	Fusing Side Frame - Rear	1
28	5215 5390	Thermofuse	1
29	5203 5801	Thermofuse Bracket	1
30	5215 4093	Upper Frame	1
31	5215 4211	Decal - Thermofuse	1
32	AE04 5001	Oil Supply Pad	1
33	5215 4196	Oil Sump Holder	2
34	A007 4195	Oil Sump	1
35	A007 4179	Upper Entrance Guide Plate - Fusing	1
36	5215 5250	Thermistor	1
37	5203 4146	Thermistor Spring	1

Index No.	Part No.	Description	Q'ty Per Assembly
38	A007 4178	Thermister Mounting Frame	1
39	5215 4116	Oil Blade Holder	1
40	AE04 3003	Oil Blade	1
41	AE03 0002	Ball Bearing 10x26x8	2
42	5215 4121	Spring - Oil Blade	2
43	AE02 0001	Pressure Roller	1
44	A007 4281	Lower Entrance Guide Plate - Fusing	1
45	A007 4287	Fusing Entrance	1
46	A007 4288	Fusing Entrance Cover	1
47	AA06 6047	Fusing Entrance Spring	1
48	AA14 0073	Fusing Entrance Shaft	1
49	A007 4221	Oil Pan	1
50	5447 2769	Stepped Screw	2
51	A007 4285	Slider Leaf Spring	1
52	A007 4284	Fusing Entrance Slider	1
53	A007 4286	Slider Knob Lever	1
54	A007 4282	Right Fusing Rail	1
55	A007 4283	Right Fusing Rail Bracket	1
56	A008 4215	Front Lamp Terminal Ass'y	1
57	A008 4221	Rear Lamp Terminal Ass'y	1
58	A008 4216	Lamp Terminal Spacer	2
59	A008 4217	Front Lamp Terminal Shaft	1
60	AA11 3013	Rear Lamp Terminal	1
61	AA11 3014	Inner Insulator	2
62	AA11 3015	Front Outer Insulator	1
63	AA11 3016	Rear Outer Insulator	1
64	AA11 3023	Front Lamp Terminal	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0951 3015B	Philips Screw With Flat Washer - M3x15	
103	0314 0060W	Philips Pan Head Screw - M4x6	
104	0434 0080W	Tapping Screw - M4x8	
105	0434 0140W	Tapping Screw - M4x14	
106	0720 0030E	Retaining Ring - M3	
107	0720 0050E	Retaining Ring - M5	
108	0720 0060E	Retaining Ring - M6	
109	0720 0070E	Retaining Ring - M7	
110	0725 0200E	Retaining Ring C - M20	
111	0740 3008	Ball Bearing	
112	0805 3377	Ball Bearing - 25x42x9mm	
113	0951 3005W	Philips Screw With Flat Washer - M3x5	
114	0434 0100W	Tapping Screw -M4x10	

Index No.	Part No.	Description	Q'ty Per Assembly

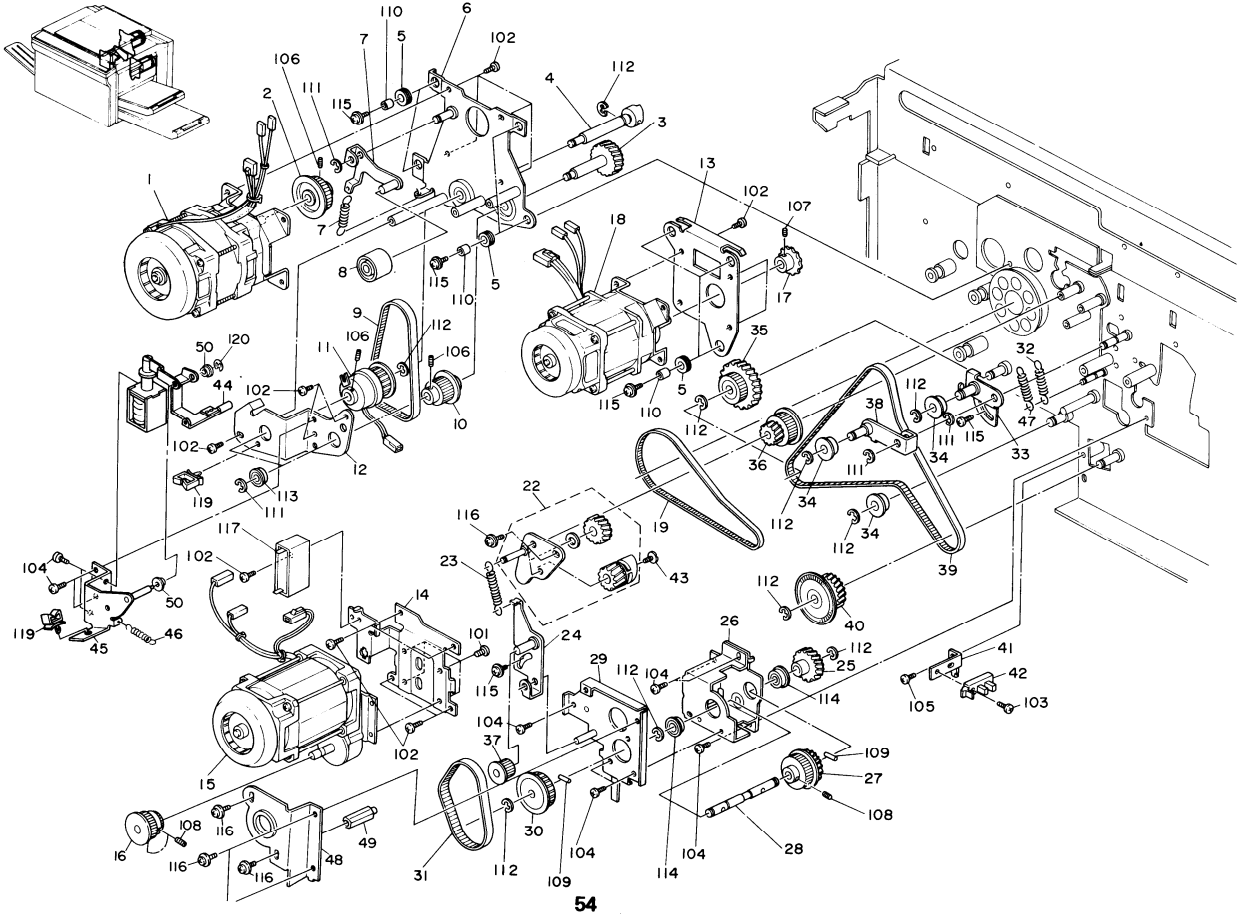
23. OPERATION PANEL (A045/A046)



23. OPERATION PANEL (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A045 1453	Operation Panel Ass'y - A4 (FT5550)	1
1	A045 1452	Operation Panel Ass'y - A4 (FT5570)	1
1	A045 1451	Operation Panel Ass'y - LT	1
2	A045 1531	Instruction Card Holder Cover	1
3	A045 1491	Instruction Card Holder	1
5	A007 1313	Operation Panel Support Bracket	1
6	A007 1311	Operation Panel Bracket - Left	1
7	A007 1312	Operation Panel Bracket – Center	1
8	A007 1310	Operation Panel Bracket - Right	1
9	A007 1294	Magnet Catch Plate	1
10	A007 6194	Inner Front Upper Cover Ass'y	1
11	A007 1531	Slide Cover (LT)	1
11	A007 1535	Slide Cover (A4)	1
12	A007 5728	Key Top - Timer	1
13	A007 5729	Key Top - Interrupt	1
14	A007 5730	Key Top - Start	1
15	A007 5731	Key Top - Guidance	1
16	A008 5626	Key Top - Program	1
17	A008 5627	Key Top - Clear Mode	1
18	A008 5629	Key Top - Recall	1
19	A008 5630	Key Top - 0	1
20	A008 5631	Key Top - 1	1
21	A008 5632	Key Top - 2	1
22	A008 5633	Key Top - 3	1
23	A008 5634	Key Top - 4	1
24	A008 5635	Key Top - 5	1
25	A008 5636	Key Top - 6	1
26	A008 5637	Key Top - 7	1
27	A008 5638	Key Top - 8	1
28	A008 5639	Key Top - 9	1
29	A008 5640	Key Top - C/S	1
30	A008 5641	Key Top - ADS	1
31	A008 5642	Key Top - Lighter	1
32	A008 5643	Key Top - Darker	1
33	A008 5644	Key Top - Select Cassette	1
34	A008 5645	Key Top - Full Size	1
35	A008 5646	Key Top - Enlarge	1
36	A008 5647	Key Top - Reduce	1
37	A008 5648	Key Top - Auto Cassette Selection	1
38	A008 5650	Key Top - Zoom UP	1
39	A008 5651	Key Top - Zoom Down	1
40	A008 5653	Key Top	1
41	A008 5658	Key Top - Point	1
42	A007 1565	Decal - DIP SW	1
43	A019 5165	IC - HN27256G-25	1
44	A019 5166	IC - HN27256G-25	1
45	A019 5167	IC - HN27256G-25	1
46	A007 5741	ADF Sheet (LT)	1
46	A007 5758	ADF Sheet (A4)	1
46	A007 5742	Sorter Sheet (LT)	1
46	A007 5759	Sorter Sheet (A4)	1
48	A007 5736	Zoom Panel Sheet - LT	1
48	A007 5753	Zoom Panel Sheet - A3	1
49	A045 5636	Panel Sheet - Enlarge/Reduce - LT	1
49	A045 5646	Panel Sheet - Enlarge/Reduce - A4	1
50	A045 5631	Panel Sheet - Auto Paper Select - LT	1
50	A045 5641	Panel Sheet - Auto Paper Select - A4	1
51	A007 5739	Single Side Panel Sheet - LT	1
51	A007 5756	Single Side Panel Sheet - A3	1
52	A007 5740	Duplex Panel Sheet - LT	1
52	A007 5757	Duplex Panel Sheet - A3	1
53	A007 5735	Panel Sheet	1
54	A045 5601	Operation Panel Sheet - Duplex - LT	1
54	A045 5611	Operation Panel Sheet - Sorter - LT	1
54	A045 5621	Operation Panel Sheet - Finishing - LT	1
54	A007 5761	Operation Panel Sheet - A3	1
55	A045 5120	Operation Panel Board	1
56	A007 5708	Mylar Seal - Slide Cover	1
57	A007 5130	LCD Power Supply Board	1
58	A045 5135	LCD Board	1
59	A007 1521	Slide Rail Base	1
60	A007 1462	Key Top Base - B	1
61	A007 1461	Key Top Base - A	1
102	0434 0060W	Tapping Screw - M4x6	
103	0434 0080W	Tapping Screw - M4x8	
104	0802 5094	Tapping Truss Head Screw - M4x8	
105	0965 4008W	Tapping Screw With Flat Washer - M4x8	
106	A008 1354	Flat Head Screw - DIP Switch Cover	

24. DRIVE SECTION (A045/A046)



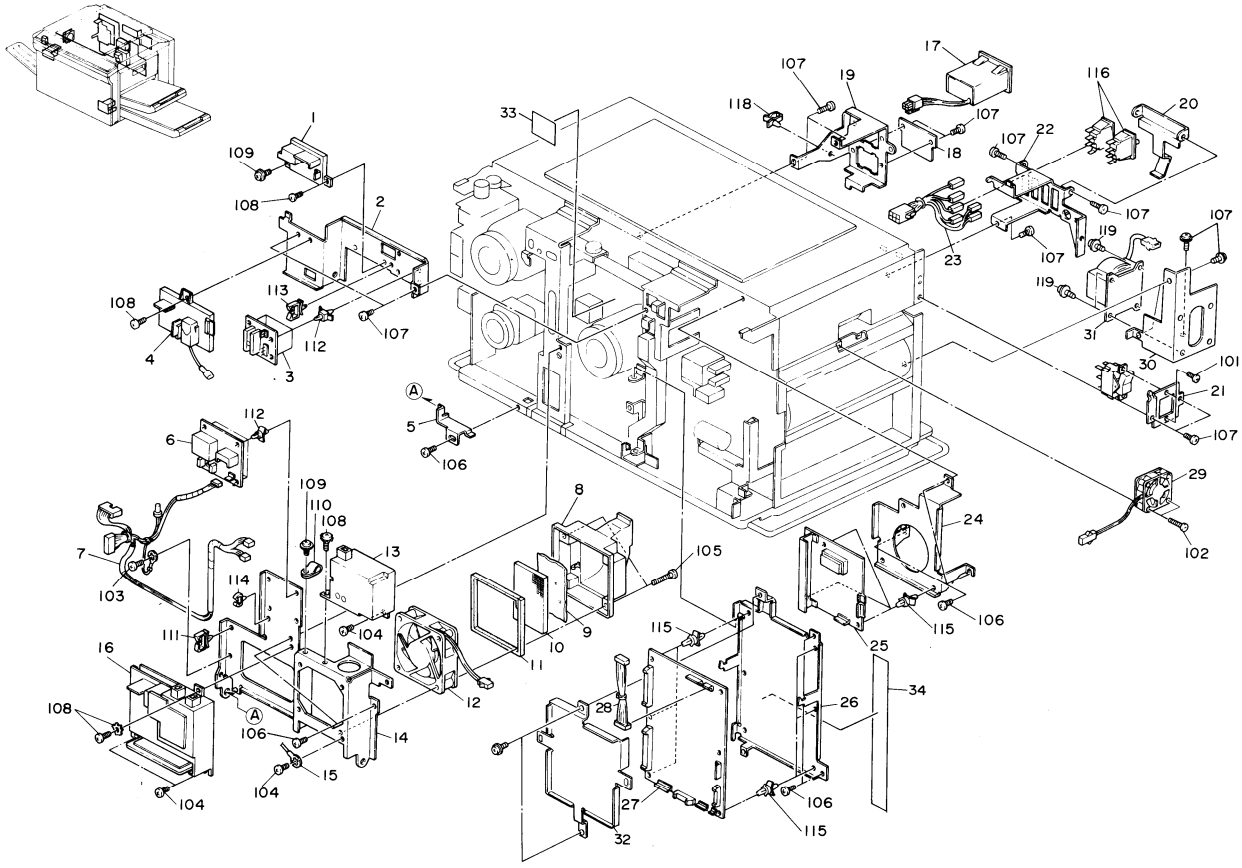
24. DRIVE SECTION (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AX02 0031	Development Motor - AC 28W	1
2	AB03 0015	Pulley - 35T/60Hz	1
2	AB03 0014	Pulley - 42T/50Hz	1
3	A007 3425	Helical Gear	1
4	A007 3430	Joint Shaft - Toner Supply	1
5	AA16 1014	Cushion - Motor	7
6	A007 3411	Development Motor Bracket	1
7	A007 3455	Tightener Bracket	1
8	AA13 0006	Idle Pulley	1
9	AA04 3002	Timing Belt - 345PX	1
10	AB03 0016	Pulley - 24T	1
11	AX20 0019	Magnetic Clutch - Toner Supply	1
12	A007 3441	Support Bracket - Development Motor	1
13	A007 2901	Paper Feed Motor Bracket	1
14	A007 1082	Main Drive Motor Bracket	1
15	AX02 0030	Main Drive Motor - AC 39.5W	1
16	AB03 3010	Pulley - 30T/60Hz	1
16	AB03 3009	Pulley - 36T/650Hz	1
17	AB02 3017	Sprocket - 15T/60Hz	1
17	AB02 3016	Sprocket - 18T/50Hz	1
18	AX02 0028	Paper Feed Motor	1
19	AA04 3005	Timing Belt - 200XL	1
22	A007 3722	Cleaning Drive Bracket	1
23	AA06 0066	Fusing Drive Spring - 60Hz	1
23	AA06 0065	Fusing Drive Spring - 50Hz	1
24	A007 1103	Tension Lever - Fusing Drive	1
25	AB01 1015	Gear - 27T	1
26	A007 1091	Fusing Drive Unit Bracket	1
27	AB01 7022	Pulley Gear - Fusing Drive	1
28	AA14 5029	Fusing Drive Shaft	1
29	A007 1100	Timing Belt Tension Bracket	1
30	AB03 0019	Gear - 36T	1
31	AA04 3003	Timing Belt - 222PX	1
32	AA06 0063	Tension Spring - Drum Drive (220/240V)	1
32	AA06 0104	Tension Spring - Drum Drive (115V)	1

Index No.	Part No.	Description	Q'ty Per Assembly
33	A007 1117	Idle Pulley Bracket	1
34	AB03 0021	Idler Pulley	2
35	A007 1114	Pulley & Gear - 36T/45T	1
36	AB01 7029	Pulley Gear - Cleaning	1
37	AB03 0020	Pulley - 20Z	1
38	A007 1123	Tension Lever - Drum Drive	1
39	AA04 3004	Timing Belt - 699PX	1
40	A007 1108	Perforated Disk	1
41	A007 1112	Photointerruptor Bracket	1
42	5215 5230	Photointerrupter - L-Type	2
43	AA14 3033	Stopper Screw	1
44	A007 3461	Development Support Solenoid	1
45	A007 3466	Solenoid Bracket	1
46	5442 3233	Spring - Drive Wheel	1
47	AA06 0064	Tension Spring	2
48	A007 1105	Support Plate - Motor Shaft	1
49	A007 1107	Support Plate Stud	1
50	5203 1852	Bushing - 6x8x4mm	2

Index No.	Part No.	Description	Q'ty Per Assembly
101	0314 0060W	Philips Pan Head Screw - M4x6	
102	0314 0080W	Philips Pan Head Screw - M4x8	
103	0314 0100W	Philips Pan Head Screw - M4x10	
104	0434 0060W	Tapping Screw - M4x6	
105	0434 0080W	Tapping Screw - M4x8	
106	0574 0050E	Hexagon Headless Set Screw - M4x5	
107	0575 0050E	Hexagon Headless Set Screw - M5x5	
108	0575 0060E	Hexagon Headless Set Screw - M5x6	
109	0633 0140G	Parallel Pin - M3x14	
110	0707 4050B	Bushing - 4x5	
111	0720 0050E	Retaining Ring - M5	
112	0720 0060E	Retaining Ring - M6	
113	0805 3145	Ball Bearing - 6x12x4mm	
114	0805 3291	Ball Bearing - 8x16x5mm	
115	0951 4006W	Philips Screw With Flat Washer - M4x6	
116	0960 4008W	Philips Flange Screw - M4x8	
117	1606 1627	Capacitor - 14MF 250V	
118	0720 0040W	Retaining Ring - M4	
119	1105 0196	Harness Clamp	
120	0720 0040E	Retaining Ring - M4	

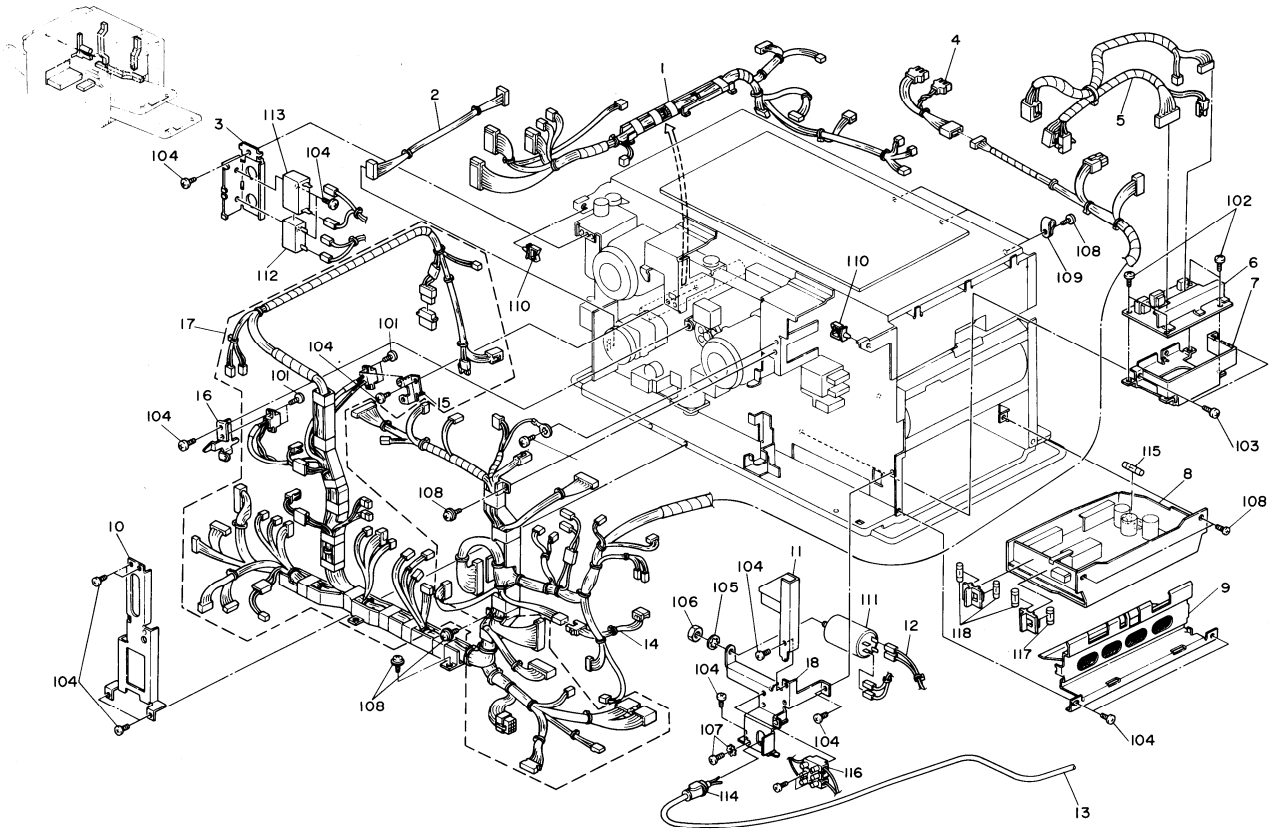
Index No.	Part No.	Description	Q'ty Per Assembly


1
109
108
2
113
112
107
108
4
3
33
5
106
112
6
109
110
108
7
103
114
111
104
13
16
108
106
14
15
104
104
12
11
10
9
8
105
115
25
24
106
115
34
26
28
27
106
115
32
17
107
19
118
18
107
116
20
107
22
107
23
107
107
119
119
31
30
101
21
107
29
102

25. ELECTRICAL SECTION 1 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AZ32 0007	Power Pack - PQC&BR	1
2	A007 5865	Power Pack Bracket	1
3	A007 5416	Ssr Board - AC Drive	1
4	A007 5370	Power Pack - Charge & Bias	1
5	A007 5858	Transport Fan Support Bracket	1
6	AZ50 0002	CFL Stabilizer	1
7	A007 5366	Power Pack Harness	1
8	A007 3928	Transport Fan Cover	2
9	AA01 2006	Transport Fan Filter	1
10	AA01 0002	Ozone Filter	1
11	AA15 1072	Seal - 3x7x484	1
12	AX05 0008	Transport Fan Motor	1
13	AZ31 0001	Power Pack - PCC	1
14	A007 5857	Transport Fan Bracket	1
15	A007 5460	Grounding Wire	1
16	AZ32 0006	Power Pack - T&S	1
17	5215 5380	Total Counter	1
18	A007 5879	Counter Cover	1
19	A007 5861	Total Counter Bracket	1
20	A007 5872	Safety Switch Lever	1
21	A007 5876	Main Power Switch Bracket	1
22	A007 5871	Safety Switch Bracket	1
23	A007 5218	Safety Switch Harness	1
24	A007 5863	Optics Board Bracket	1
25	A045 5180	Optics Board	1
26	A045 5851	Bracket - Main Control Board	1
27	A045 5101	Main Control Board (FT5550,5570)	1
27	A046 5101	Main Control Board (FT5540)	1
28	A007 5217	Main Control Harness	1
29	AX04 0007	Exhaust Fan Motor	1
30	A007 5856	Bracket - Transformer	1
31	AZ14 0006	Transformer 220V,240V/100V,327VA	1
31	5205 5405	Transformer - 115V	1
32	A045 5852	Cover - Main Control Board	1
33	5434 7916	High Voltage Decal	1
34	AA15 0019	Mylar Seal	1
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0313 0300W	Philips Pan Head Screw - M3x30	
103	0314 0080M	Philips Pan Head Screw - M4x8	
104	0314 0080W	Philips Pan Head Screw - M4x8	
105	0314 0450W	Philips Pan Head Screw - M4x45	
106	0434 0060W	Tapping Screw - M4x6	
107	0434 0080W	Tapping Screw - M4x8	
108	0801 1185	Philips Truss Head Screw - M4x8	
109	0964 4008W	Tapping Screw With Flat Washer - M4x8	
110	1105 0008	Nylon Clip - 2N	
111	1105 0099	Wire Saddle	
112	1105 0159	P.C.B. Stud	
113	1105 0197	Wire Saddle	
114	1105 0199	Clamp	
115	1106 0395	Locking Support	
116	1204 1280	Push Switch	
117	1204 1520	Switch	
118	1105 0200	Clamp	
119	0315 0080W	Philips Pan Head Screw - M5x8	

26. ELECTRICAL SECTION 2 (A045/A046)

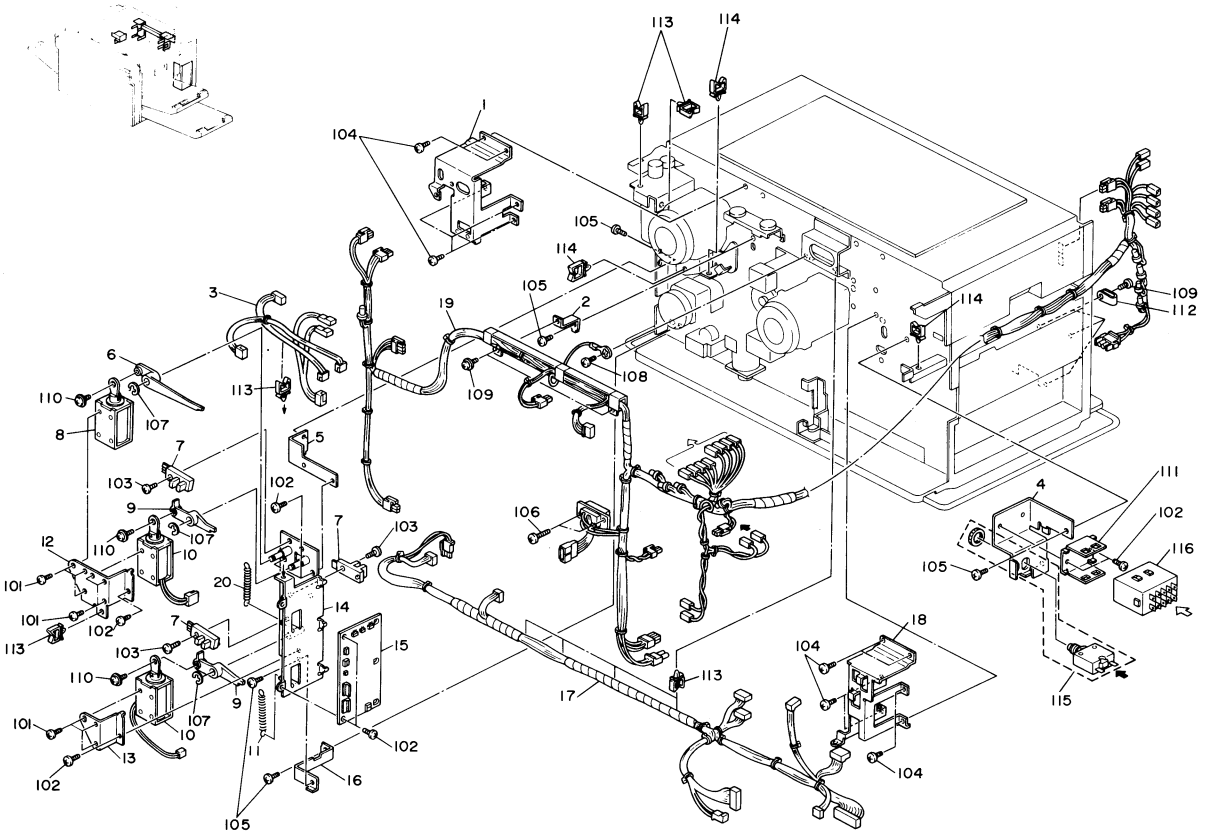


26. ELECTRICAL SECTION 2 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A045 5249	Paper Feed Unit Harness	1
2	A007 5253	Upper Paper Size Harness	1
3	A007 5843	Capacitor Bracket	1
4	AZ40 0003	DC Motor Harness	1
5	A007 5462	AC Drive Board Harness	1
6	AY11 0001	AC Drive Board - 115V	1
6	AY11 0002	AC Drive Board - 220/240V	1
7	A007 5851	AC Drive Bracket	1
8	AZ23 0002	DC Control Unit	1
9	A007 1130	Exit Cover	1
10	A007 1128	ADF Support Bracket	1
11	A007 5860	Solenoid Cover Bracket	1
12	A007 5458	AC Descent Harness (115V)	1
12	A007 5459	Harness -AC Descent (220/240V)	1
13	1150 0003	Power Supply Cord (115V)	1
13	2801 0027	Power Supply Cord 250V,10A(220/240V)	1
14	A007 5205	Gate Harness	1
15	A007 2108	DC Harness Bracket	1
16	A007 2116	Density Sensor Connector Bracket	1
17	A045 5243	DC Harness (FT5570)	1
17	A045 5267	DC Harness (FT5550)	1
17	A046 5243	DC Harness (FT5540)	1
18	A007 5853	Power Supply Cord Bracket	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0100W	Philips Pan Head Screw - M3x10	
102	0314 0060W	Philips Pan Head Screw - M4x6	
103	0434 0060W	Tapping Screw - M4x6	
104	0434 0080W	Tapping Screw - M4x8	
105	0704 0080B	Toothed Washer - M8	
106	0712 0080B	Hexagon Nut - M8	
107	0801 1185	Philips Truss Head Screw - M4x8	
108	0964 4008W	Tapping Screw With Flat Washer - M4x8	
109	1105 0005	Nylon Clip - 3N	
110	1105 0196	Harness Clamp	
111	1602 0923	Noise Filter - 115V	
111	5447 5690	Noise Filter - 220/240V	
112	1606 1587	Capacitor - 8µF 220V	
113	1606 1626	Capacitor - 14MF 220V	
114	1106 0442	Cord Clamp Lisr - 40	
114	1106 0366	Cord Clamp - 115V	
115	1601 7468	Fuse Resistor - 100OHM 1/2W	
116	1106 0359	Nylon Stud	
117	1107 0354	Fuse - 3.15A/125V	
118	1107 0371	Fuse - 5A/125V	

27. ELECTRICAL SECTION 3 (A045/A046)



27. ELECTRICAL SECTION 3 (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 1125	Right ADF Bracket	1
2	A007 5878	AC Harness Angle	1
3	A045 5251	Left Motor Harness	1
4	A007 5852	Noise Filter Bracket	1
5	A007 2740	Support Bracket 1 - Feed Control	1
6	A007 2749	Pick-up Arm - Manual Feed	1
7	5205 5251	LED Sensor Type - T	3
8	AX11 0011	Pick-up Solenoid - Manual Feed	1
9	A007 2742	Shutter Plate	2
10	5205 5321	Pick-up Solenoid	2
11	AA06 0082	Pick-up Lever Spring	1
12	A007 2738	Solenoid Upper Bracket	1
13	A007 2748	Solenoid Lower Bracket	1
14	A007 2733	Feed Control Board Bracket	1
15	A007 5190	Paper Feed Control Board	1
16	A007 2741	Support Bracket 2 - Feed Control	1
17	A045 5216	Lens Housing Harness	1
18	A007 1129	Left ADF Bracket	1
19	A045 5451	AC Harness	1
20	AA06 0112	Pick-up Lever Spring - Upper	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0050W	Philips Pan Head Screw - M3x5	
102	0314 0060W	Philips Pan Head Screw - M4x6	
103	0314 0100W	Philips Pan Head Screw - M4x10	
104	0434 0060W	Tapping Screw - M4x6	
105	0434 0080W	Tapping Screw - M4x8	
106	0434 0100W	Tapping Screw - M4x10	
107	0720 0050E	Retaining Ring - M5	
108	0801 1185	Philips Truss Head Screw - M4x8	
109	0964 4008W	Tapping Screw With Flat Washer - M4x8	
110	0965 3008W	Tapping Screw With Flat Washer - M3x8	
111	1104 0224	Relay Bracket	
112	1105 0005	Nylon Clip - 3N	
113	1105 0196	Harness Clamp	
114	1105 0197	Wire Saddle	
115	1107 0363	Circuit Breaker - 115V	
115	1107 0550	Circuit Breaker 10A	
116	1208 1029	Power Relay	

CONNECTOR

SYMBOL NO.	INDEX NO.
CN100	106
CN101	112
CN102	112
CN103	110
CN104	111
CN105	108
CN106	101
CN107	111
CN108	109
CN109	107

SYMBOL NO.	INDEX NO.
CN111	1
CN112	6
CN113	105
CN120	103
CN190	104

CAPACITOR

SYMBOL NO.	INDEX NO.
C100	157
C102	157
C103	157
C104	163
C105	163
C106	164
C107	155
C108	163
C109	163
C110	163

SYMBOL NO.	INDEX NO.
C111	157
C112	163
C113	157
C114	154
C115	163
C116	162
C117	157
C118	163
C119	163
C120	163

SYMBOL NO.	INDEX NO.
C121	156
C122	160
C123	160
C124	157
C126	163
C127	163
C128	163
C129	163
C130	162
C131	162

SYMBOL NO.	INDEX NO.
C132	162
C133	162
C134	162
C135	163
C136	163
C137	163
C138	163
C139	163
C140	163
C141	163

SYMBOL NO.	INDEX NO.
C142	162
C143	163
C144	161
C145	161
C146	163
C147	162
C148	162
C149	162
C150	162
C151	163

SYMBOL NO.	INDEX NO.
C152	163
C153	163
C154	163
C155	163
C156	163
C157	163
C158	163
C159	163
C160	163
C161	163

SYMBOL NO.	INDEX NO.
C162	163
C163	163
C164	163
C165	163
C166	163
C167	163
C168	163
C169	163
C170	163
C171	163

SYMBOL NO.	INDEX NO.
C172	163
C173	163
C174	161
C175	161
C176	163
C177	163
C178	163
C179	163
C180	162
C181	163

SYMBOL NO.	INDEX NO.
C182	163
C183	162
C184	162
C185	163
C186	163
C187	163
C189	163
C190	163
C191	163
C192	163

SYMBOL NO.	INDEX NO.
C193	163
C194	163
C195	163
C196	163
C197	163
C198	163
C199	163
C200	163
C201	163
C202	163

SYMBOL NO.	INDEX NO.
C203	163
C204	163
C205	163
C206	163
C207	162
C208	163
C209	163
C210	162
C211	163
C212	164

SYMBOL NO.	INDEX NO.
C213	163
C215	162
C220	157
C221	157
C222	163
C223	163
C224	163
C225	163
C226	163
C227	163

SYMBOL NO.	INDEX NO.
C228	159
C229	158
C230	158
C231	158
C232	158
C233	157
C234	162
C235	163
C236	162
C237	163

SYMBOL NO.	INDEX NO.
C238	162

DIP SW.

SYMBOL NO.	INDEX NO.
DIP100	114

DIODE

SYMBOL NO.	INDEX NO.
D101	119
D102	119
D103	119
D104	119
D105	119
D106	119
D107	119
D108	119
D109	118
D110	118

SYMBOL NO.	INDEX NO.
D111	118
D112	118
D113	118
D114	118
D115	121
D116	121
D117	121

IC

SYMBOL NO.	INDEX NO.
IC100	149
IC101	132
IC102	130
IC103	113
	4
	5
IC106	140
IC107	136
IC108	151
IC109	128

SYMBOL NO.	INDEX NO.
IC110	131
IC111	128
IC112	127
IC113	135
IC114	145
IC115	145
IC116	136
IC117	136
IC118	141
IC119	133

SYMBOL NO.	INDEX NO.
IC120	133
IC121	138
IC122	139
IC123	136
IC124	125
IC125	127
IC126	137
IC127	136
IC128	126
IC129	127

SYMBOL NO.	INDEX NO.
IC130	133
IC131	133
IC132	136
IC133	136
IC134	142
IC135	149
IC136	2
IC137	134
IC138	150
IC139	144

SYMBOL NO.	INDEX NO.
IC140	133
IC141	133
IC142	147
IC143	133
IC144	136
IC145	136
IC146	134
IC147	128
IC148	143
IC149	148

SYMBOL NO.	INDEX NO.
IC150	146
IC151	129

OSCILLATOR

SYMBOL NO.	INDEX NO.
OSC100	152
OSC101	152

TRANSISTOR

SYMBOL NO.	INDEX NO.
Q102	117
Q103	120
Q104	115

RESISTOR

SYMBOL NO.	INDEX NO.
R100	193
R101	173
R102	173
R103	173
R104	171
R105	180
R106	180
R111	170
R112	170
R113	170

SYMBOL NO.	INDEX NO.
R114	170
R115	185
R116	185
R117	185
R118	185
R119	185
R120	185
R121	185
R122	185
R123	185

SYMBOL NO.	INDEX NO.
R124	185
R125	185
R126	185
R127	185
R128	185
R129	185
R130	185
R131	180
R132	180
R133	180

SYMBOL NO.	INDEX NO.
R134	180
R139	179
R140	179
R141	179
R142	179
R143	180
R144	180
R145	180
R146	180
R147	180

SYMBOL NO.	INDEX NO.
R148	180
R149	187
R150	182
R151	195
R152	170
R153	184
R154	183
R155	183
R156	173
R157	173

SYMBOL NO.	INDEX NO.
R158	180
R159	173
R160	167
R161	166
R162	167
R163	167
R164	167
R165	167
R166	180
R167	180

SYMBOL NO.	INDEX NO.
R168	180
R169	180
R170	173
R171	170
R172	180
R173	180
R174	180
R175	180
R176	180
R177	183

SYMBOL NO.	INDEX NO.
R178	191
R179	191
R180	191
R181	191
R182	191
R183	191
R184	191
R185	191
R186	194
R187	197

SYMBOL NO.	INDEX NO.
R188	196
R189	183
R190	178
R191	180
R192	180
R193	180
R194	180
R195	180
R196	172
R197	172

SYMBOL NO.	INDEX NO.
R198	179
R199	180
R200	180
R201	180
R202	180
R203	192
R204	176
R205	190
R206	190
R207	176

SYMBOL NO.	INDEX NO.
R208	170
R209	176
R210	169
R211	188
R212	172
R213	172
R214	172
R215	172
R217	187
R218	173

SYMBOL NO.	INDEX NO.
R219	173
R220	165
R221	172
R222	172
R223	172
R224	172
R225	186
R226	172
R227	170
R228	169

SYMBOL NO.	INDEX NO.
R230	172
R231	172
R232	172
R233	172
R234	172
R235	173
R236	173
R237	173
R238	165
R239	175

SYMBOL NO.	INDEX NO.
R240	175
R241	166
R242	168
R243	169
R244	169
R245	169
R246	169
R247	170
R248	170
R249	170

SYMBOL NO.	INDEX NO.
R250	170
R251	172
R252	172
R253	180
R254	180
R255	172
R256	172
R257	172
R258	173
R259	176

SYMBOL NO.	INDEX NO.
R260	176
R261	176
R262	173
R263	173
R264	173
R265	189
R266	174
R267	176
R268	174
R269	170

SYMBOL NO.	INDEX NO.
R270	173
R271	176
R272	172
R273	172
R274	172
R275	172
R276	172
R277	172
R278	172
R279	172

SYMBOL NO.	INDEX NO.
R280	172
R281	172
R282	172
R283	172
R284	172
R285	172
R286	172
R287	172
R288	172
R289	172

SYMBOL NO.	INDEX NO.
R290	172
R291	172
R292	172
R293	172
R294	172
R295	172
R296	172
R297	172
R298	172
R299	172

SYMBOL NO.	INDEX NO.
R300	172
R301	172
R302	184
R303	184
R304	184
R305	184
R306	180
R307	181
R308	173
R309	187

SYMBOL NO.	INDEX NO.
R310	187
R311	184
R312	173
R313	173
R314	173
R315	173
R316	173
R317	173
R318	173
R319	173

SYMBOL NO.	INDEX NO.
R320	173
R321	173
R322	173
R323	185
R324	177
R325	177
R330	182
R331	173
R332	173
R333	173

SYMBOL NO.	INDEX NO.
R334	173
R335	173
R336	173
R337	176

TA

SYMBOL NO.	INDEX NO.
TA100	116
TA101	116

TEST PIN

SYMBOL NO.	INDEX NO.
TP100	102
TP101	102
TP102	102
TP103	102

VARIABLE RESISTOR

SYMBOL NO.	INDEX NO.
VR100	153

ZENER DIODE

SYMBOL NO.	INDEX NO.
ZD101	123
ZD102	122
ZD103	124

28. MAIN CONTROL BOARD (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A045 5101	Main Control Board (FT5550,5570)	1
*	A046 5101	Main Control Board (FT5540)	1
1	AW00 0002	Fiber Connector	1
2	A007 5105	CPU - Main Control Board	1
3	A007 5118	Ram Board	1
4	A045 5103	IC - HN27512G25 (FT5550,5570)	1
4	A492 5103	IC - HN27512G25 (RDH)	1
5	A046 5103	IC - HN27512G25 (FT5540)	1
6	A409 5710	Fiber Connector - 2-174135-1	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1094	Connector - 9P	
102	1101 0328	Connector Pin Contact	
103	1102 1567	Connector - 2P	
104	1102 2986	Receptacle - 14P	
105	1103 0635	Connector - 10P	
106	1103 1390	Pin Header - 6P	
107	1103 1725	Connector - 3P	
108	1103 1732	Connector - 10P	
109	1103 1733	Connector - 11P	
110	1103 1736	Connector - 14P	
111	1103 3020	Connector - 20P	
112	1103 3025	Connector - 50P	
113	1104 0271	LSI Socket - 28P	
114	1204 1482	DIP Switch	
115	1401 0298	Transistor - 2SC2712Y	
116	1401 0391	Transistor Array - PU4310 60V3A	
117	1401 0395	Transistor Array - 2SC2883	
118	1401 0826	Diode - 1SS181	
119	1401 0832	Diode - DSA1A1	
120	1401 0864	Transistor - 2SD1006	
121	1402 0476	Diode - 1SS184	
122	1402 0688	Diode	
123	1402 0690	Diode - RD39P	
124	1402 0734	Diode - RD6.2	
125	1407 1306	IC - SN74LS00	
126	1407 1309	IC - HD74LS04FD	
127	1407 1310	Ttl - HD74LS08FP	
128	1407 1311	IC - HD74LS32FP	
129	1407 1316	Ttl - HD74LS107FP	
130	1407 1317	IC - HD74LS138FP	
131	1407 1813	IC - SN74LS11NS	
132	1407 1882	IC - SN74LS373NS	
133	1407 2054	IC - TD62308F	
134	1407 2055	IC - TD62304F	
135	1407 2073	IC - UPD78C10GF	

Index No.	Part No.	Description	Q'ty Per Assembly
136	1407 2187	IC - SN74LS07NS	
137	1407 2218	IC - SN74LS06NS	
138	1407 2221	IC - SN75157P	
139	1407 2222	IC - SN75158P	
140	1407 2223	IC - TPM82C51AF-2	
141	1407 2228	LSI TMP82C55AF-2	
142	1407 2229	IC - NJM555	
143	1407 2230	IC - TD6F62303F	
144	1407 2231	IC - TD62308AF	
145	1407 2232	IC - 74HC157F	
146	1407 2823	IC - MDP71051GB-3B4	
147	1407 3359	IC - RF5C60	
148	1407 3360	IC - MPD4711	
149	1408 0456	IC - AN6914S	
150	1408 0537	IC - TL7705CPS	
151	1408 0561	IC - TL092	
152	1503 0070	Ceramic Oscillator - 10MHz	
153	1601 8138	Variable Resistor - 30KOHM 0.75W	
154	1604 1375	Capacitor - 0.22µF 50V	
155	1604 1378	Capacitor - 1MF 50V	
156	1604 1381	Capacitor - 4.7µF 50V	
157	1604 1382	Capacitor - 10µF 50V	
158	1604 1383	Capacitor - 22µF 50V	
159	1604 1385	Electrolytic CAP. : 47µF ±20% 50V	
160	1604 1386	Capacitor - 100MF 50V	
161	1605 0166	Capacitor - 27PF 50V	
162	1606 1451	Capacitor - 0.1µF 50V	
163	1606 1454	Capacitor - 0.01MF 50V	
164	1606 1455	Capacitor - 470PF 25V	
165	1610 0035	Resistor - 100OHM 1/8W ±5%	
166	1610 0045	Resistor - 270OHM 1/8W ±5%	
167	1610 0047	Resistor - 330OHM 1/8W ±5%	
168	1610 0048	Resistor - 390OHM 1/8W ±5%	
169	1610 0049	Resistor - 470OHM 1/8W ±5%	
170	1610 0053	Resistor - 1KOHM 1/8W ±5%	

Index No.	Part No.	Description	Q'ty Per Assembly
171	1610 0057	Resistor - 1.5KOHM 1/8W ±5%	
172	1610 0064	Resistor - 3KOHM 1/8W ±5%	
173	1610 0067	Resistor - 4.7KOHM 1/8W ±5%	
174	1610 0068	Resistor - 5.6KOHM 1/8W ±5%	
175	1610 0069	Resistor - 6.8KOHM 1/8W ±5%	
176	1610 0071	Resistor - 10KOHM ±5%	
177	1610 0073	Resistor - 12KOHM 1/8W ±5%	
178	1610 0075	Resistor - 15KOHM 1/8W ±5%	
179	1610 0077	Resistor - 18KOHM 1/8W ±5%	
180	1610 0079	Resistor - 22KOHM 1/8W ±5%	
181	1610 0083	Resistor - 33KOHM 1/8W - 5%	
182	1610 0085	Resistor - 47KOHM 1/8W ±5%	
183	1610 0086	Resistor - 56KOHM 1/8W ±5%	
184	1610 0089	Resistor - 100KOHM 1/8W ±5%	
185	1610 0091	Resistor - 120KOHM	
186	1610 0099	Resistor - 270KOHM 1/8W ±5%	
187	1610 0107	Resistor - 1MOHM 1/8W ±5%	
188	1610 0108	Resistor - 1.2MOHM 1/8W ±5%	
189	1610 0110	Resistor - 1.8KOHM 1/8W ±5%	
190	1610 0113	Resistor - 3.3MOHM 1/8W ±5%	
191	1611 4151	Resistor - 150OHM 1/4W ±5%	
192	1611 4181	Resistor - 180OHM 1/4W ±5%	
193	1611 4820	Resistor - 820HM 1/4W ±5%	
194	1622 1003	Resistor - 100KOHM 1/4W ±1%	
195	1622 1202	Resistor - 2KOHM 1/4W ±1%	
196	1622 5231	Resistor - 5.23KOHM 1/4W ±1%	
197	1622 8661	Resistor - 8.6KOHM 1/4W ±1%	

CONNECTOR

SYMBOL NO.	INDEX NO.
CN301	103
CN302	105
CN303	107
CN304	101
CN305	106
CN306	104

CAPACITOR

SYMBOL NO.	INDEX NO.
C301	129
C302	131
C304	131
C305	131
C306	131
C307	131
C308	128
C309	131
C311	131
C313	131

SYMBOL NO.	INDEX NO.
C314	131
C315	130
C316	130
C317	131
C318	131
C319	132
C320	131
C321	131
C322	131
C323	133

SYMBOL NO.	INDEX NO.
C324	133
C325	131
C326	131
C328	131
C329	131
C330	131
C331	132
C332	131
C333	131
C334	131

DIODE

SYMBOL NO.	INDEX NO.
D301	113
D302	113
D303	113
D304	113

IC

SYMBOL NO.	INDEX NO.
IC301	123
IC302	123
IC303	121
IC304	1
(IC304)	108
IC305	124
IC306	125
IC307	118
IC308	119
IC309	117

SYMBOL NO.	INDEX NO.
IC310	120
IC311	116
IC313	117
IC314	119
IC315	122
IC316	118
IC317	119

TRANSISTOR

SYMBOL NO.	INDEX NO.
Q301	112
Q302	111
Q303	111
Q304	112
Q305	109
Q306	110
Q307	110
Q308	109

RESISTOR

SYMBOL NO.	INDEX NO.
R301	142
R302	142
R303	142
R304	142
R305	138
R306	134
R307	138
R308	134
R309	134
R310	136

SYMBOL NO.	INDEX NO.
R311	136
R312	138
R313	138
R314	138
R315	138
R322	139
R323	139
R324	139
R325	139
R326	139

SYMBOL NO.	INDEX NO.
R327	134
R328	138
R329	141
R330	138
R331	138
R332	138
R333	138
R334	139
R335	138
R336	138

SYMBOL NO.	INDEX NO.
R337	140
R338	137
R339	138
R340	137
R341	138
R342	137
R343	140
R344	137
R345	135
R346	135

SYMBOL NO.	INDEX NO.
R347	138
R348	138

OSCILLATOR

SYMBOL NO.	INDEX NO.
OSC301	126
OSC302	127

TEST PIN

SYMBOL NO.	INDEX NO.
TP301	102
TP303	102
TP304	102
TP305	102
TP306	102
TP307	102
TP308	102
TP309	102
TP310	102
TP311	102

SYMBOL NO.	INDEX NO.
TP312	102

ZENER DIODE

SYMBOL NO.	INDEX NO.
ZD301	115
ZD302	114

29. OPTICS BOARD (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A045 5180	Optics Board	1
1	A007 5182	Eprom - Optical Control	1
101	1100 1094	Connector - 9P	
102	1101 0328	Connector Pin Contact	
103	1102 0958	Connector - 2P	
104	1102 1172	EI Connector - 4P	
105	1103 0725	Connector - 3P	
106	1103 1134	Connector - 12P	
107	1103 1403	Connector - 12P	
108	1104 0271	LSI Socket - 28P	
109	1400 0423	Transistor - 2SA1121C	
110	1400 0424	Transistor - 2SC2618C	
111	1401 0427	Rectifier - S4VB40	
112	1401 0428	Transistor - 2SD1773	
113	1402 0110	Diode - V06C	
114	1402 0687	Diode - 12V 1W	
115	1402 0688	Diode	
116	1407 1305	IC - SN7406NS	
117	1407 1306	IC - SN74LS00	
118	1407 1309	IC - HD74LS04FD	
119	1407 1314	IC - HD74LS74AFP	
120	1407 1740	IC - SN74LS27NS	
121	1407 1882	IC - SN74LS373NS	
122	1407 1883	IC - TC4050BF	
123	1407 2054	IC - TD62308F	
124	1407 2073	IC - UPD78C10GF	
125	1407 2217	IC - PD71054GB	
126	1503 0070	Ceramic Oscillator - 10MHz	
127	1503 0180	Ceramic Oscillator - 8MHz	
128	1604 1353	Capacitor - 47µF 10V	
129	1604 1386	Capacitor - 100MF 50V	
130	1605 0305	Capacitor - 3300PF	
131	1606 1452	Capacitor - 0.01µF 50V	
132	1606 1453	Capacitor - 0.1µF 25V	
133	1606 1520	Capacitor - 27PF 50V	
134	1610 0053	Resistor - 1KOHM 1/8W ±5%	
135	1610 0055	Resistor - 1.2KOHM 1/8W ±5%	
136	1610 0061	Resistor - 2.2KOHM 1/8W ±5%	
137	1610 0065	Resistor - 3.3KOHM 1/8W ±5%	
138	1610 0067	Resistor - 4.7KOHM 1/8W ±5%	
139	1610 0071	Resistor - 10KOHM ±5%	
140	1610 0081	Resistor - 27KOHM 1/8W ±5%	
141	1610 0107	Resistor - 1MOHM 1/8W ±5%	
142	1611 6122	Resistor - 1.2KOHM ±5% 1/2W	

IC

SYMBOL NO.	INDEX NO.
IC401	119
IC402	119
IC403	119

DIODE

SYMBOL NO.	INDEX NO.
D401	117
D402	117
D403	117
D404	117
D405	117
D406	117
D407	117
D408	117
D409	117
D410	117
D411	117
D412	117
D413	117
D414	117
D415	117
D416	117
D417	117
D418	117
D419	117
D420	117
D421	117
D422	117
D423	118
D424	118
D425	118
D426	118
D427	118

CONNECTOR

SYMBOL NO.	INDEX NO.
CN401	107
CN403	101
CN404	114
CN404	107
CN405	111
CN406	102
CN407	106
CN408	110
CN409	103
CN410	108
CN411	109
CN412	104
CN413	112
CN414	113
CN415	105
CN416	116
CN417	115

RESISTOR ARRAY

SYMBOL NO.	INDEX NO.
RAY401	120
RAY402	120

RESISTOR

SYMBOL NO.	INDEX NO.
R401	124
R402	125
R403	123

CAPACITOR

SYMBOL NO.	INDEX NO.
C401	122
C402	122
C403	121
C404	122
C405	122
C406	122

30. PAPER FEED CONTROL BOARD (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A007 5190	Paper Feed Control Board	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1091	EI Connector - 3P	
102	1100 1095	Connector - 10P	
103	1100 1096	Connector - 12P	
104	1102 3169	Connector - 32P	
105	1103 0774	Connector - 3P	
106	1103 0777	Connector - 30	
107	1103 1400	Connector - 2P	
108	1103 1401	Connector - 7P	
109	1103 1402	Connector - 10P	
110	1103 1531	Connector - 4P	
111	1103 1682	Connector - 2P	
112	1103 1694	Connector - 14P	
113	1103 1696	Connector - 2P	
114	1103 1724	Connector - 2P	
115	1103 1725	Connector - 3P	
116	1103 1752	Connector - 2P	
117	1401 0825	Diode - 1SS176	
118	1402 0423	Diode - S5500G	
119	1408 0200	IC - TA75339P	
120	1601 7167	Resistor Array - 4.7KOHM 1/8W	
121	1604 1382	Capacitor - 10µF 50V	
122	1606 0998	Capacitor - 0.01µF 50V	
123	1611 4153	Resistor - 15KOHM 1/4T ±5%	
124	1611 4472	Resistor - 4.7KOHM 1/4T ±5%	
125	1611 4682	Resistor - 6.8KOHM 1/4T ±5%	

RA

SYMBOL NO.	INDEX NO.
RA501	105

CONNECTOR

SYMBOL NO.	INDEX NO.
CN501	104
CN502	103
CN503	102
CN504	101

L

SYMBOL NO.	INDEX NO.
L501	128

CAPACITOR

SYMBOL NO.	INDEX NO.
C501	123
C502	122
C503	122
C504	122
C505	126
(115V)	126
(220V)	124
C506	
(115V)	125
(220V)	127

TR

SYMBOL NO.	INDEX NO.
TR501	1
TR502	1

RESISTOR

SYMBOL NO.	INDEX NO.
R501	131
R502	129
R503	136
R504	137
R505	134
R506	129
R507	129
R508	129
R509	129
R510	117

SYMBOL NO.	INDEX NO.
R511	135
R512	133
R513	133
R514	133
R515	130
R516	130
R517	130
R518	116
R519	116
R520	116

SYMBOL NO.	INDEX NO.
R521	132
R522	132
R523	132

ZENNER

SYMBOL NO.	INDEX NO.
ZD501	106

DIODE

SYMBOL NO.	INDEX NO.
D501	107

TRC

SYMBOL NO.	INDEX NO.
TRC501	114
TRC502	113
TRC503	110

VR

SYMBOL NO.	INDEX NO.
VR501	119

IC

SYMBOL NO.	INDEX NO.
IC501	115

PC

SYMBOL NO.	INDEX NO.
PC501	108
PC502	108
PC503	
(115V)	108
(220V)	111

CR

SYMBOL NO.	INDEX NO.
CR501	
(115V)	120
(220V)	121
CR502	
(115V)	120
(220V)	121
CR503	
(115V)	120
(220V)	121

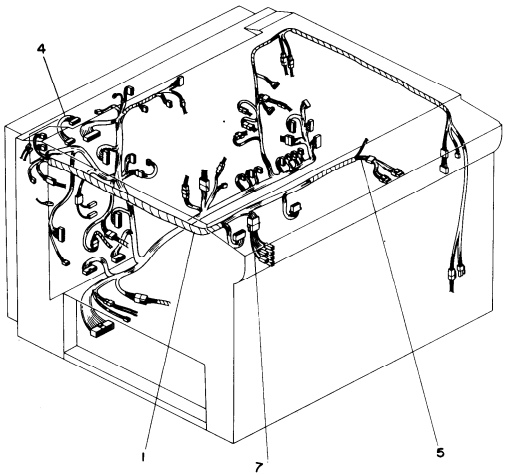
DB

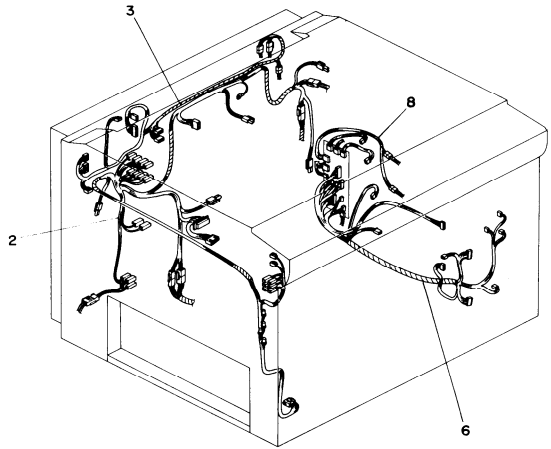
SYMBOL NO.	INDEX NO.
DB501	
(115V)	109
(220V)	112
DB502	
(115V)	109
(220V)	112
DB503	
(115V)	109
(220V)	112
DB504	
(115V)	109
(220V)	112
CR505	
(115V)	109
(220V)	112

31. AC DRIVE BOARD (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
*	AY11 0001	AC Drive Board - 115V	1
✱	AY11 0002	AC Drive Board - 220/240V	1
l	5215 5222	Transformer - 100V/25V	2
101	1102 2113	Connector - 2P	
102	1103 0701	Connector - 6P	
103	1103 1724	Connector - 2P	
104	1103 1731	Connector - 9P	
105	1208 1034	Relay - DC24V	
106	1402 0360	Zener Diode - HZ20	
107	1402 0467	Diode - S5566G	
108	1405 0127	IC - TLP541G	
109	1405 0130	IC - TG8D	
110	1405 0148	Triac - 600V-16A - Bcr	
111	1405 0151	IC - TLP545J	
112	1405 0152	Rectifier - 1J4B42	
113	1405 0156	IC - BCR8DM	
114	1405 0157	IC - M51951M	
115	1408 0233	IC - HA17903PS	
116	1600 1112	Resistor - 100OHM 2W	
117	1601 2844	Resistor - 1.8KOHM 1/2W	
118	1601 7468	Fuse Resistor - 100OHM 1/2W	
119	1601 8185	Variable Resistor - 200OHM 0.5W	
120	1602 0975	Noise Filter - 0.1MF,120OHM	
121	1602 0976	Noise Filter - 120OHM +0.1MF	
122	1605 0280	Capacitor - 0.01MF 50V	
123	1606 0689	Capacitor - 0.01MF +80%-20% 50V	
124	1606 1494	Capacitor - 0.047MF 250V	
125	1606 1496	Capacitor - 0.1µF 400V	
126	1606 1497	Capacitor - 0.047µF 125V	
127	1606 1542	Capacitor - 0.22MF AC250V	
128	1607 0218	Inductor - 6660MF	
129	1611 4103	Resistor - 10KOHM 1/4W ±5%	
130	1611 4223	Resistor - 22KOHM 1/4W ±5%	
131	1611 4562	Resistor - 5.6KOHM 1/4W ±5%	
132	1611 4820	Resistor - 82OHM 1/4W ±5%	
133	1611 6222	Resistor - 2.2KOHM 1/2W ±5%	
134	1622 1203	Resistor - 120KOHM 1/4W ±1%	
135	1622 1800	Resistor - 185OHM 1/4W ±1%	
136	1622 4703	Resistor - 470OHM 1/4W ±1%	
137	1622 8202	Resistor - 82KOHM 1/4W ±1%	

32. HARNESS LAYOUT FRONT VIEW (A045/A046)

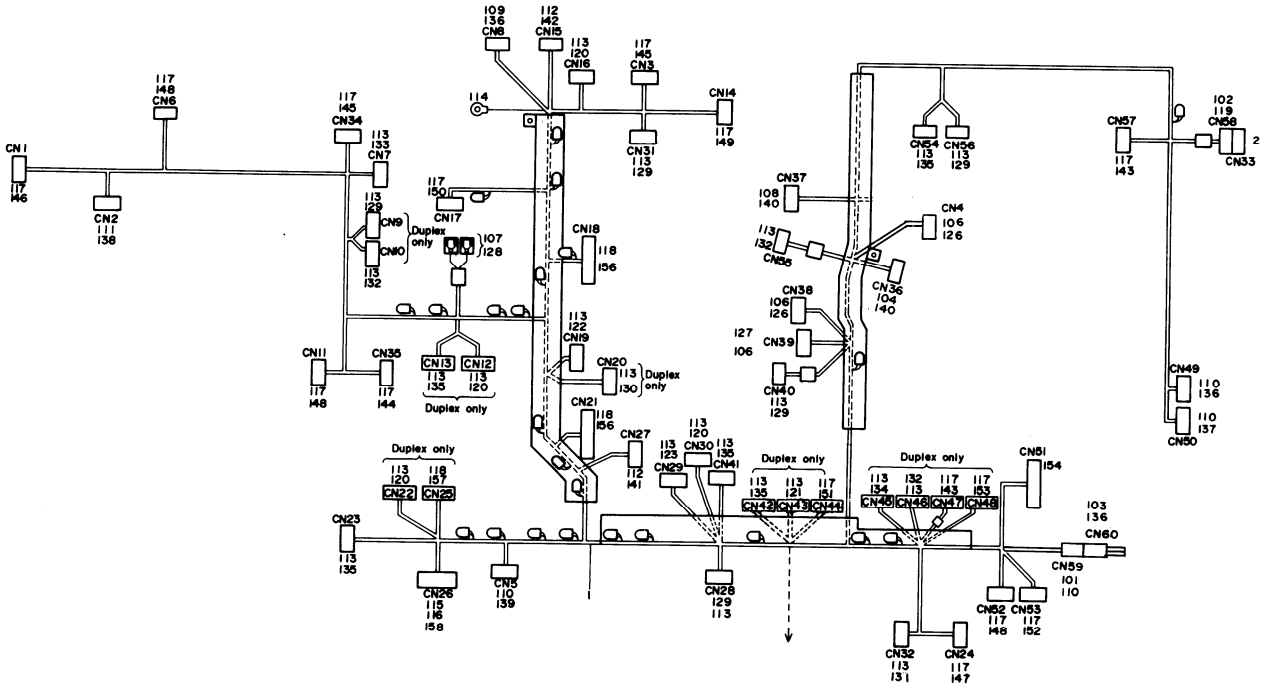




32. HARNESS LAYOUT FRONT VIEW (A045/A046)

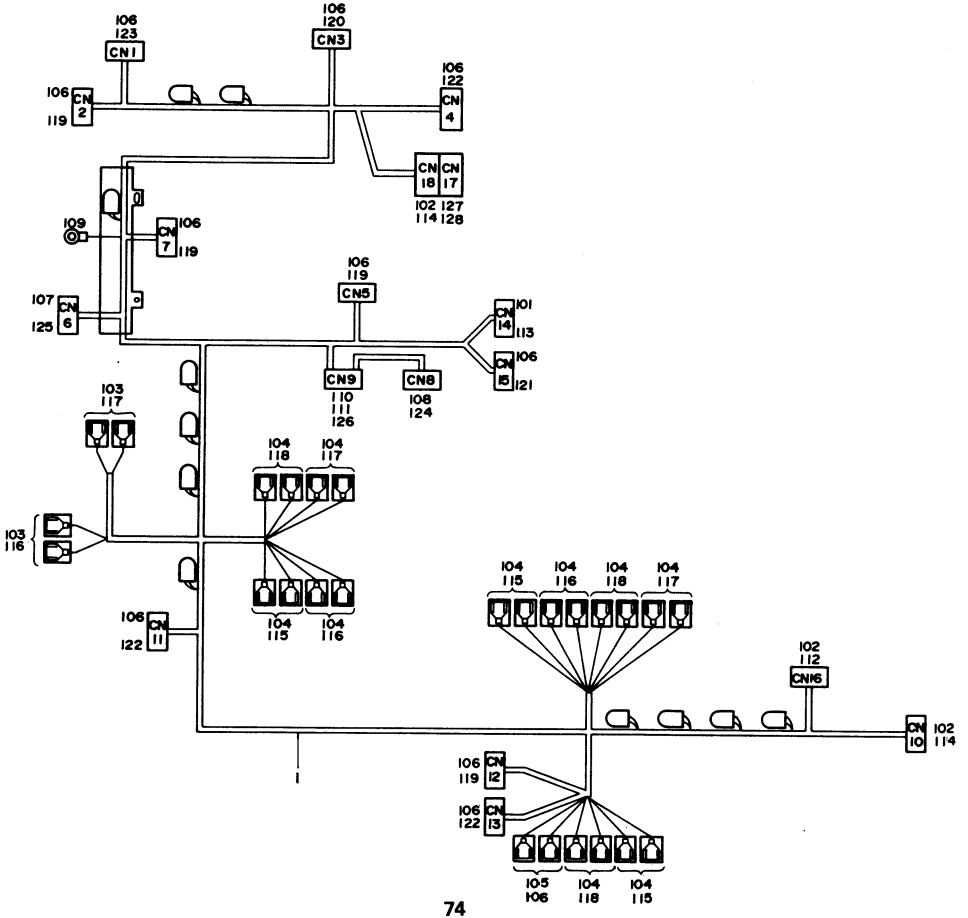
Index No.	Part No.	Description	Q'ty Per Assembly
1	A045 5243	DC Harness (FT5570)	1
1	A045 5267	DC Harness (FT5550)	1
1	A046 5243	DC Harness (FT5540)	1
2	A045 5451	AC Harness	1
3	A045 5216	Lens Housing Harness	1
4	A007 5217	Main Control Harness	1
5	AZ40 0003	DC Motor Harness	1
6	A045 5249	Paper Feed Unit Harness	1
7	A007 5218	Safety Switch Harness	1
8	A045 5251	Left Motor Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly


CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN12
CN13
CN14
CN15
CN16
CN17
CN18
CN19
CN20
CN21
CN22
CN23
CN24
CN25
CN26
CN27
CN28
CN29
CN30
CN31
CN32
CN33
CN34
CN35
CN36
CN37
CN38
CN39
CN40
CN41
CN42
CN43
CN44
CN45
CN46
CN47
CN48
CN49
CN50
CN51
CN52
CN53
CN54
CN55
CN56
CN57
CN59
CN60
Duplex only
Duplex only
Duplex only
Duplex only
Duplex only

33. DC HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A045 5243	DC Harness (FT5570)	1
1	A045 5267	DC Harness (FT5550)	1
1	A046 5243	DC Harness (FT5540)	1
2	5408 5160	Short Connector	1
101	1102 1517	Connector - 4P	
102	1100 0844	Socket - Mate-N-Lock	
103	1100 1238	Pin - Mate-N-Lock	
104	1100 1153	Terminal	
106	1100 1159	Socket - Mate-N-Lock	
107	1100 1172	Fastening Receptacle	
108	1100 1200	Terminal	
109	1100 1239	Pin - Mate-N-Lock	
110	1100 1240	Socket - Mate-N-Lock	
111	1100 1241	Socket - Mate-N-Lock	
112	1100 1247	Terminal	
113	1100 1259	Socket - Mate-N-Lock	
114	1100 1264	Wire Terminal	
115	1100 1300	Fastening Receptacle	
116	1100 1301	Fastening Receptacle	
117	1100 1327	Contact	
118	1100 1348	Pin Contact	
119	1102 0185	Connector - 4P	
120	1102 1089	Connector - 3P	
121	1102 1091	Connector - 6P	
122	1102 1093	Connector - 10P	
123	1102 1178	Connector - 5P	
126	1102 1396	Connector - 2P	
127	1102 1397	Connector - 2P	
128	1102 1404	Receptacle Housing	
129	1102 1412	Receptacle Housing - 2P	
130	1102 1090	Connector - 4P	
131	1102 1418	Connector - 8P	
132	1102 1419	Connector - 2P	
133	1102 1420	Connector - 2P	
134	1102 1422	Housing - 6P Black	
135	1102 1423	Housing - 3P Black	
136	1102 1509	Connector - 4P	
137	1102 1515	Connector - 2P	
138	1102 1518	Connector - 6P	
139	1102 1520	Connector - 12P	
140	1102 1714	Connector - 6P	
141	1102 1775	Receptacle Housing - 8P	
142	1102 1878	Connector - 3P	
143	1102 1910	Connector - 2P	
144	1102 1911	Connector - 3P	
145	1102 1912	Connector - 4P	
146	1102 1914	Connector - 6P	
147	1102 1916	Connector - 8P	
148	1102 1918	Connector - 10P	
149	1102 1919	Connector - 11P	
150	1102 1922	Connector - 14P	
151	1102 1924	Connector - 2P	
152	1102 1930	Connector - 6P	
153	1102 1938	Connector - 2P	
154	1102 3168	Receptacle - 32P	
155	1102 3173	Contact	
156	1103 0657	Connector - 50P	
157	1103 0662	Connector - 20P	

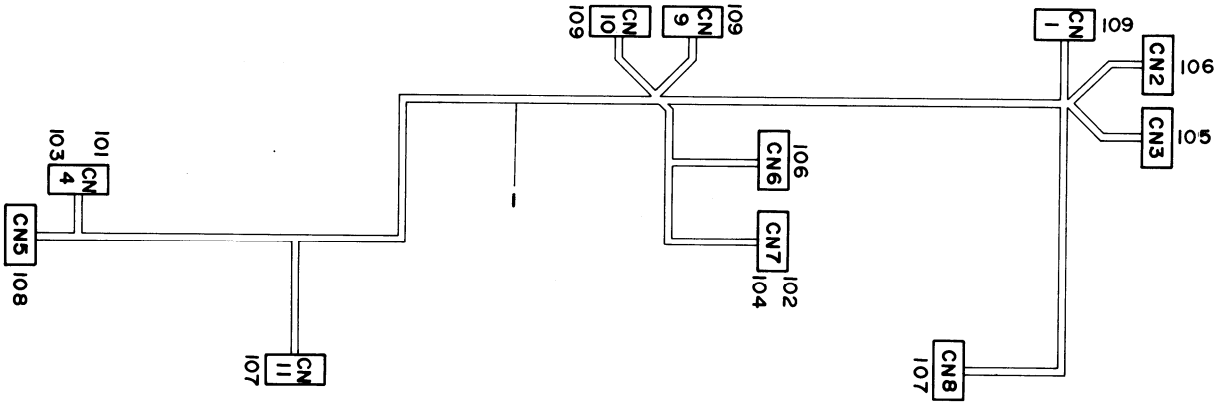

106 123 CN1
106 120 CN3
106 122 CN 4
106 119 CN 2
CN 18 CN 17
102 127 114 128
109
106 CN 7 119
106 119 CN5
107 CN 6 125
101 CN 14 113
106 CN 15 121
CN9 110 111 126
CN8 108 124
103 117
104 118
104 117
103 116
104 115
104 116
106 CN 11 122
104 115
104 116
104 118
104 117
102 112 CN16
CN 10 102 114
106 119 CN 12
106 122 CN 13
105 106
104 118
104 115

34. AC HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A045 5451	AC Harness	1
101	1100 0864	Housing - AWG14-20	
102	1100 0916	Pin - Mate-N-Lock	
103	1100 1170	Positive Lock Receptacle	
104	1100 1171	Fastening Receptacle	
105	1100 1172	Fastening Receptacle	
106	1100 1241	Socket - Mate-N-Lock	
107	1100 1247	Terminal	
108	1100 1253	Pin - Mate-N-Lock	
109	1100 1264	Wire Terminal	
110	1100 1341	Pin Contact	
111	1100 1345	Pin Contact	
112	1102 0782	Connector - 4P	
113	1102 0946	Housing - 3P	
114	1102 0983	Connector - 2P	
115	1102 1401	Receptacle Housing - 1P	
116	1102 1402	Receptacle Housing - 1P	
117	1102 1403	Receptacle Housing	
118	1102 1404	Receptacle Housing	
119	1102 1515	Connector - 2P	
120	1102 1516	Connector - 3P	
121	1102 1518	Connector - 6P	
122	1102 1532	Connector - 2P	
123	1102 1544	Connector - 3P	
124	1102 1778	Connector - 4P	
125	1102 1815	Connector - 3P	
126	1102 2099	Connector - 12P	
127	1102 0984	Connector - 2P	
128	1100 1043	Pin - Mate-N-Lock	

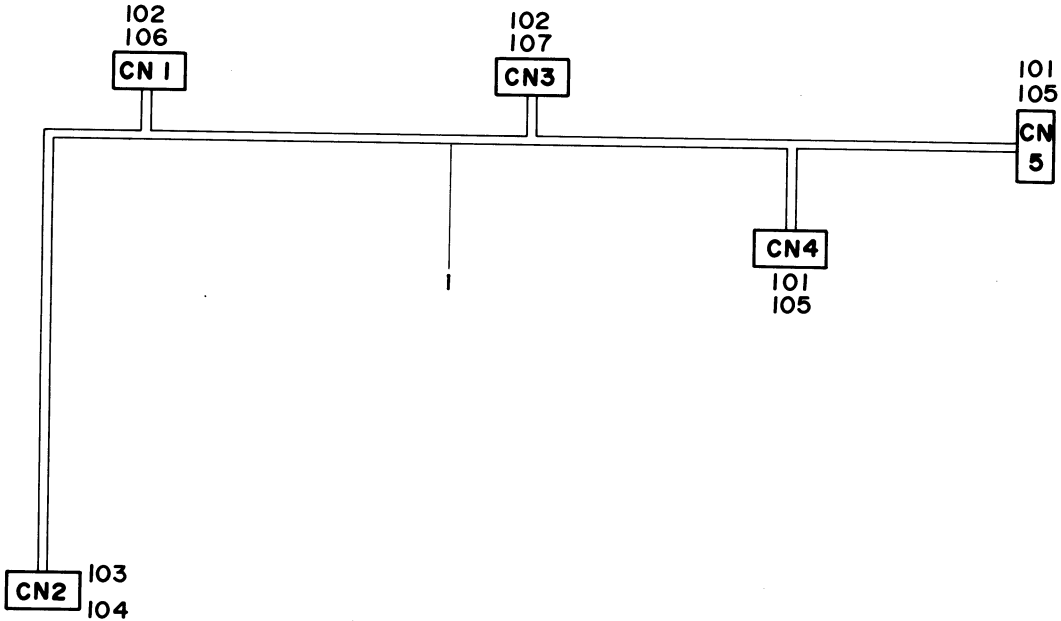
35. LENS HOUSING HARNESS (A045/A046)

August 31, '89



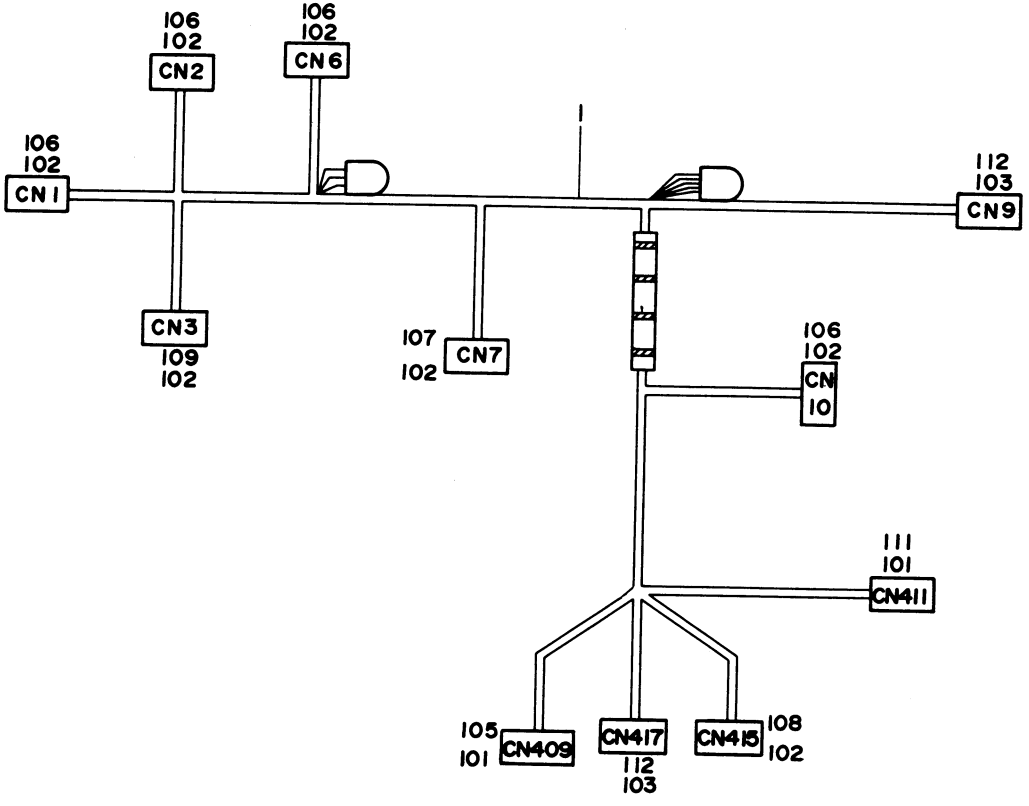
35. LENS HOUSING HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A045 5216	Lens Housing Harness	1
101	1100 1241	Socket - Mate-N-Lock	
102	1100 1247	Terminal	
103	1102 1515	Connector - 2P	
104	1102 2549	Connector - 2P	
105	1103 1337	Connector - 4P	
106	1103 1344	Connector - 12P	
107	1103 1429	Connector - 3P	
108	1103 1430	Connector - 4P	
109	1103 1431	Connector - 8P	


102
106
CN 1
102
107
CN3
101
105
CN
5
CN4
101
105
1
CN2
103
104

36. LENS HOME SENSOR HARNESS (A045/A046)

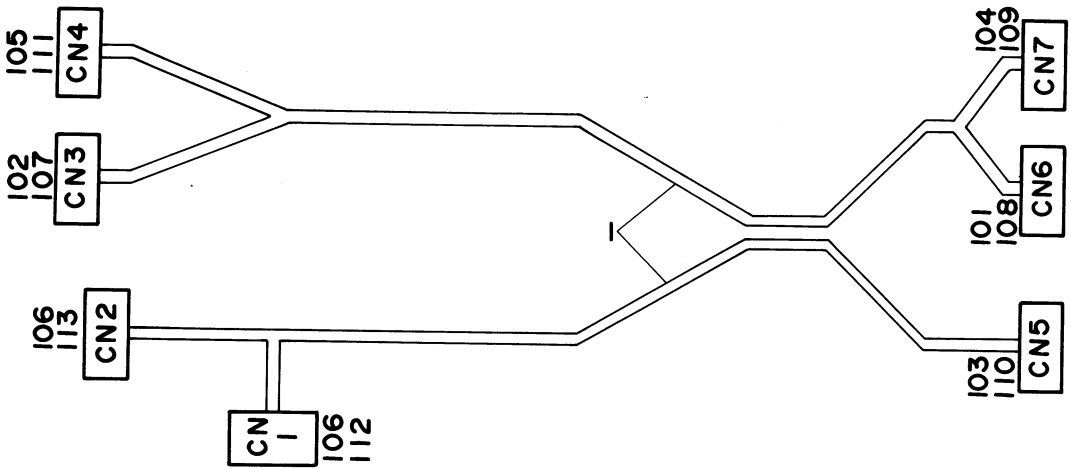
Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5215	Lens Home Sensor Harness	1
101	1100 1249	Receptacle Terminal	
102	1100 1253	Pin - Mate-N-Lock	
103	1100 1259	Socket - Mate-N-Lock	
104	1102 1091	Connector - 6P	
105	1102 1786	Connector - 3P	
106	1102 1790	Connector - 6P	
107	1102 1867	Connector - 6P	


106
102
CN2
106
102
CN6
1
106
102
CN1
112
103
CN9
CN3
109
102
107
102
CN7
106
102
CN
10
111
101
CN411
105
101
CN409
CN417
112
103
CN415
108
102

37. PAPER FEED UNIT HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A045 5249	Paper Feed Unit Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1089	Socket - Mate-N-Lock	
102	1100 1249	Receptacle Terminal	
103	1100 1327	Contact	
105	1102 1094	Connector - 12P	
106	1102 1620	Connector - 3P	
107	1102 1623	Receptacle Housing - 7P	
108	1102 1786	Connector - 3P	
109	1102 1787	Connector - 3P	
111	1102 1854	Connector - 10P	
112	1102 1911	Connector - 3P	

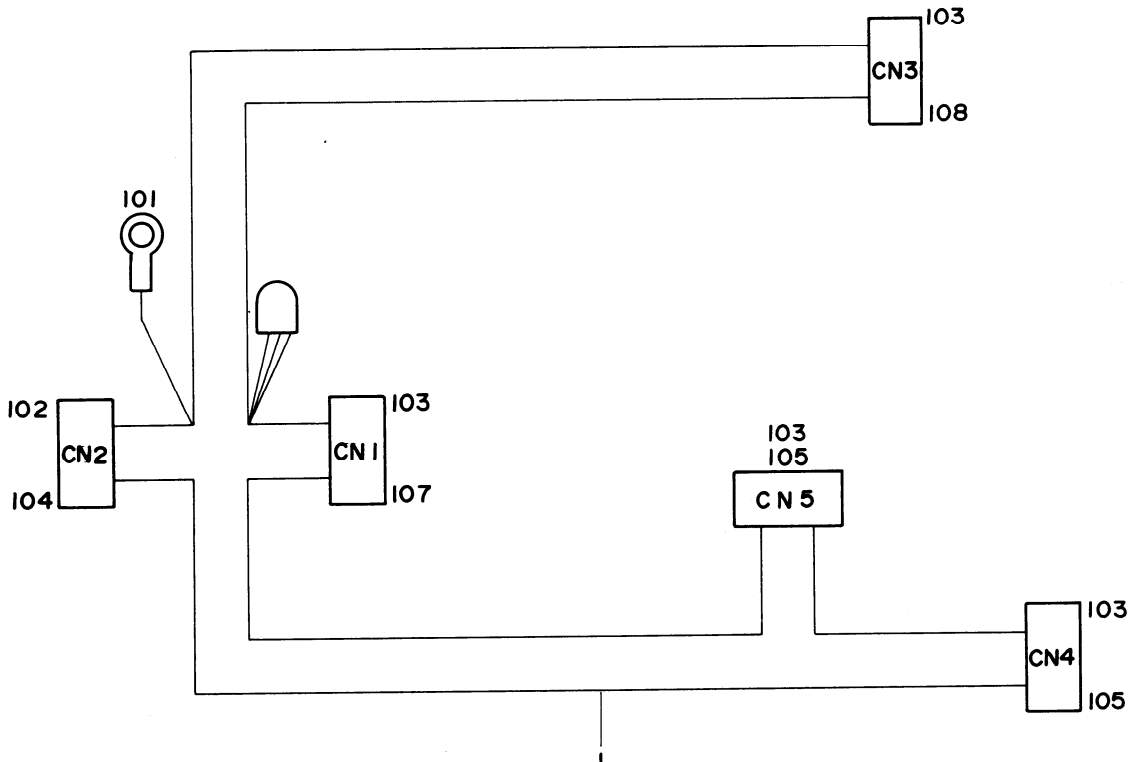

105
111
CN4
102
107
CN3
106
113
CN2
CN
1
106
112
1
104
109
CN7
101
108
CN6
103
110
CN5

38. AC DRIVE BOARD HARNESS (A045/A046)

August 31, '89

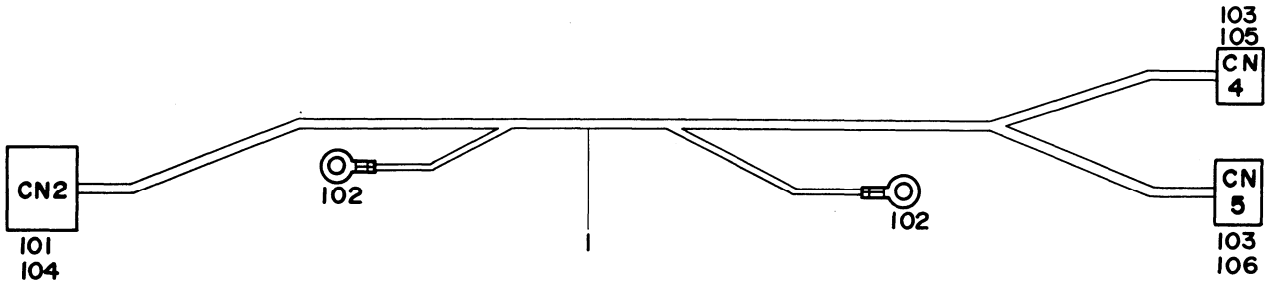
Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5462	AC Drive Board Harness	1
101	1100 0863	Stud Pin	
102	1100 0864	Housing - AWG14-20	
103	1100 1238	Pin - Mate-N-Lock	
104	1100 1239	Pin - Mate-N-Lock	
105	1100 1247	Terminal	
106	1100 1327	Contact	
107	1102 0946	Housing - 3P	
108	1102 0977	Connector - Heater	
109	1102 1510	Connector - 6P	
110	1102 1512	Connector - 12P	
111	1102 1889	Connector - 6P	
112	1102 1910	Connector - 2P	
113	1102 1917	Connector - 9P	

39. POWER PACK HARNESS (A045/A046)



39. POWER PACK HARNESS (A045/A046)

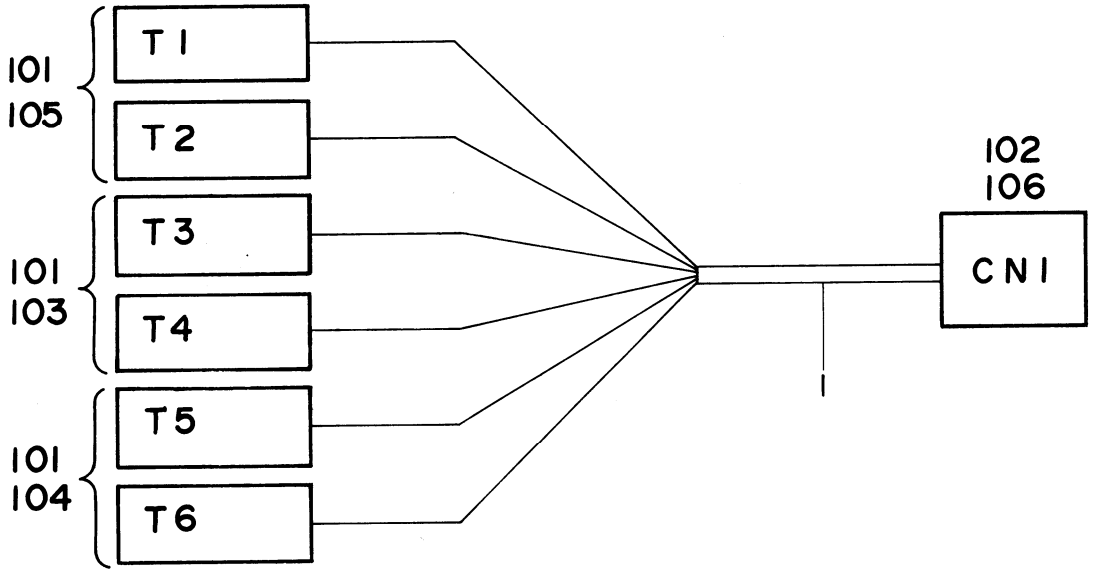
Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5366	Power Pack Harness	1
101	1100 1264	Wire Terminal	
102	1100 1253	Pin - Mate-N-Lock	
103	1100 1327	Contact	
104	1102 1777	Connector - 8P	
105	1102 1911	Connector - 3P	
106	1102 1925	Connector - 3P	
107	1102 1932	Connector - 10P	
108	1102 1940	Connector - 4P	


103
105
CN
4
CN2
102
CN
5
102
101
104
1
103
106

40. TRANSPORT UNIT HARNESS (A045/A046)

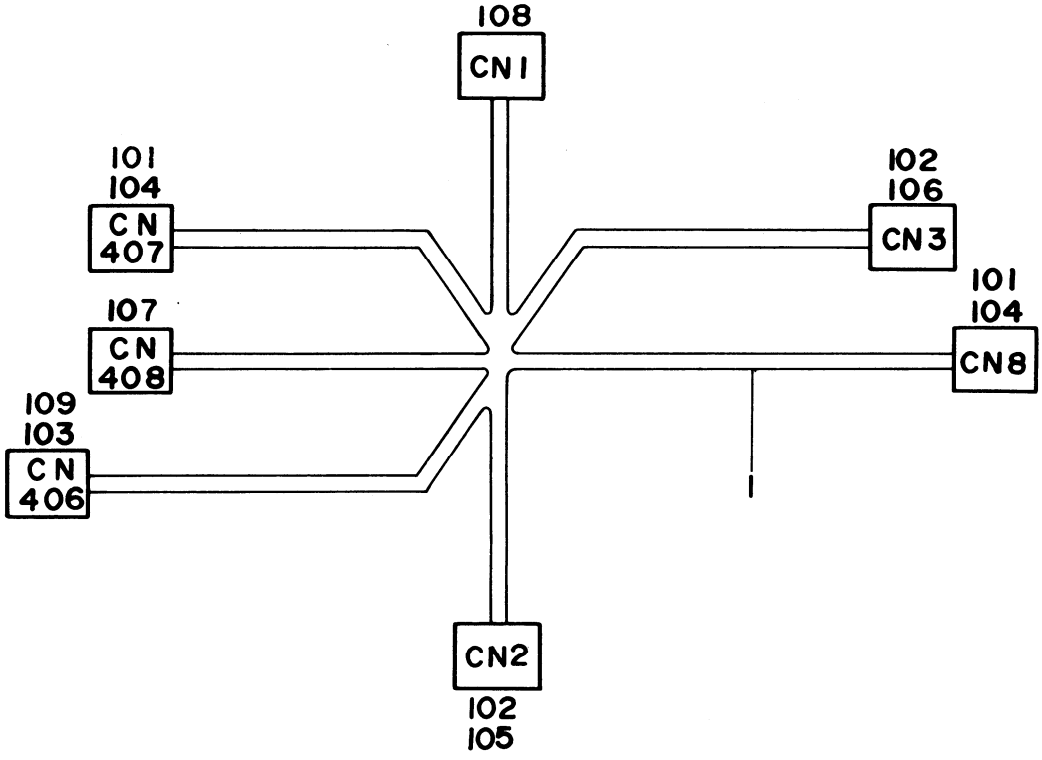
Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5214	Transport Unit Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1253	Pin - Mate-N-Lock	
102	1100 1264	Wire Terminal	
103	1100 1328	Contact	
104	1102 1753	Connector - 5P	
105	1102 1952	Connector - 2P	
106	1102 1953	Connector - 3P	


101
105
T1
T2
101
103
T3
T4
101
104
T5
T6
102
106
CN1

41. SAFETY SWITCH HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5218	Safety Switch Harness	1
101	1100 1172	Fastening Receptacle	
102	1100 1238	Pin - Mate-N-Lock	
103	1102 1402	Receptacle Housing - 1P	
104	1102 1403	Receptacle Housing	
105	1102 1404	Receptacle Housing	
106	1102 1510	Connector - 6P	

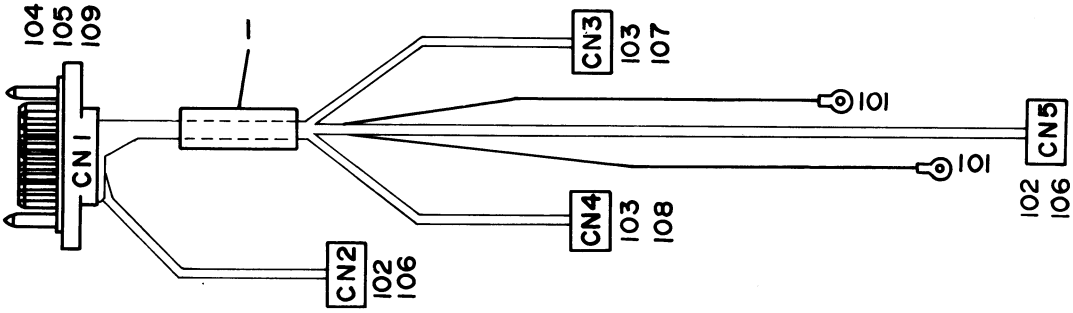

108
CN1
101
104
CN
407
102
106
CN3
107
CN
408
101
104
CN8
109
103
CN
406
1
CN2
102
105

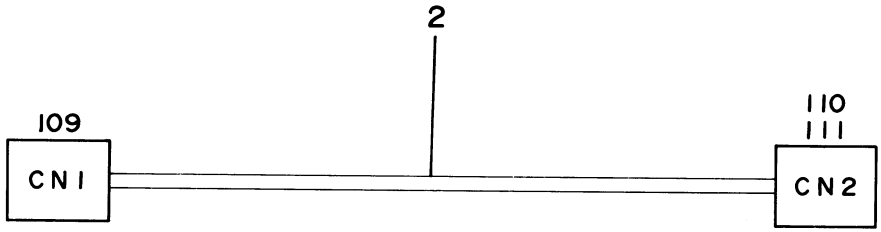
42. LIFT MOTOR HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A045 5251	Left Motor Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1249	Receptacle Terminal	
102	1100 1328	Contact	
103	1102 1093	Connector - 10P	
104	1102 1786	Connector - 3P	
105	1102 1964	Connector - 2P	
106	1102 1976	Connector - 2P	
107	1103 1337	Connector - 4P	
108	1103 1429	Connector - 3P	
109	1100 1089	Socket - Mate-N-Lock	

43. FUSING UNIT HARNESS AND GATE HARNESS (A045/A046)

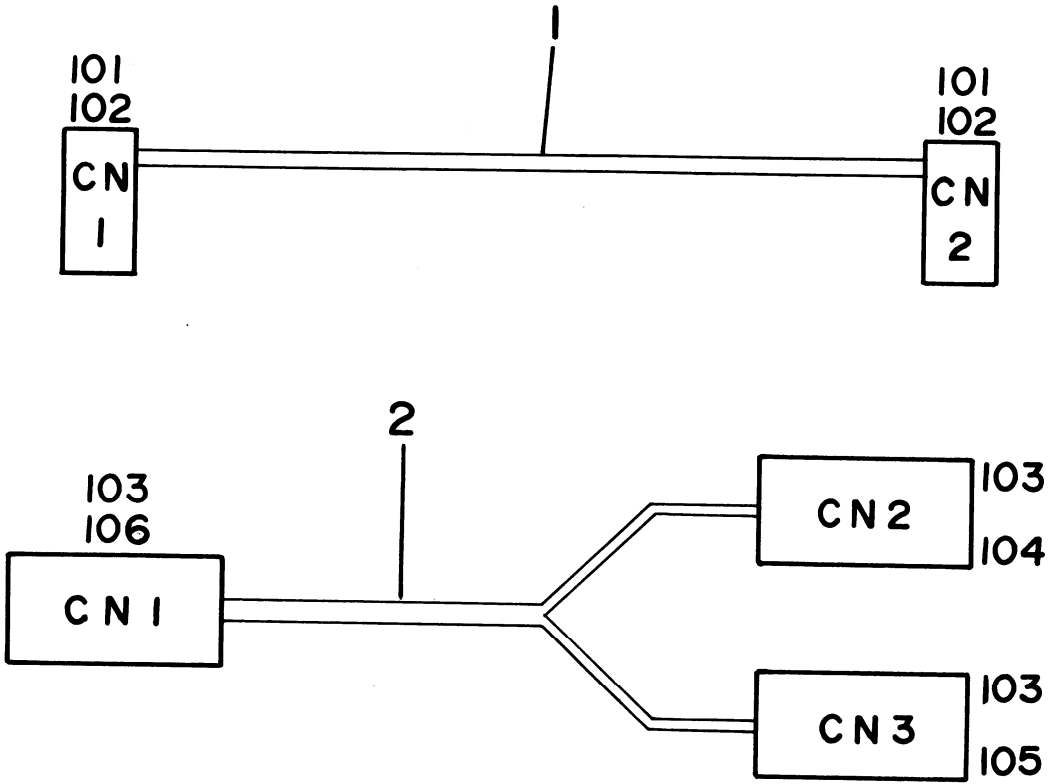




43. FUSING UNIT HARNESS AND GATE HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5540	Fusing Unit Harness	1
2	A007 5205	Gate Harness	1

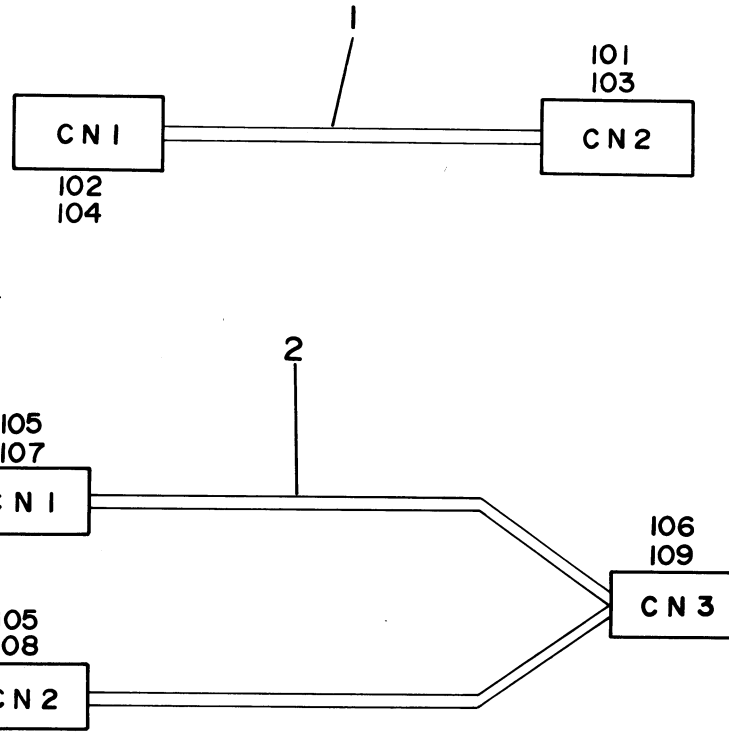
Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 0086	Solid Strand	
102	1100 1249	Receptacle Terminal	
103	1100 1327	Contact	
104	1100 1339	Pin Contact	
105	1100 1343	Pin Contact	
106	1102 1620	Connector - 3P	
107	1102 1910	Connector - 2P	
108	1102 1924	Connector - 2P	
109	1102 2098	Connector - 12P	
110	1100 1253	Pin - Mate-N-Lock	
111	1102 1859	Connector - 4P	


1
101
102
CN
1
101
102
CN
2
2
103
106
CN 1
CN2
103
104
CN 3
103
105

44. MAIN CONTROL HARNESS AND DC MOTOR HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5217	Main Control Harness	1
2	AZ40 0003	DC Motor Harness	1

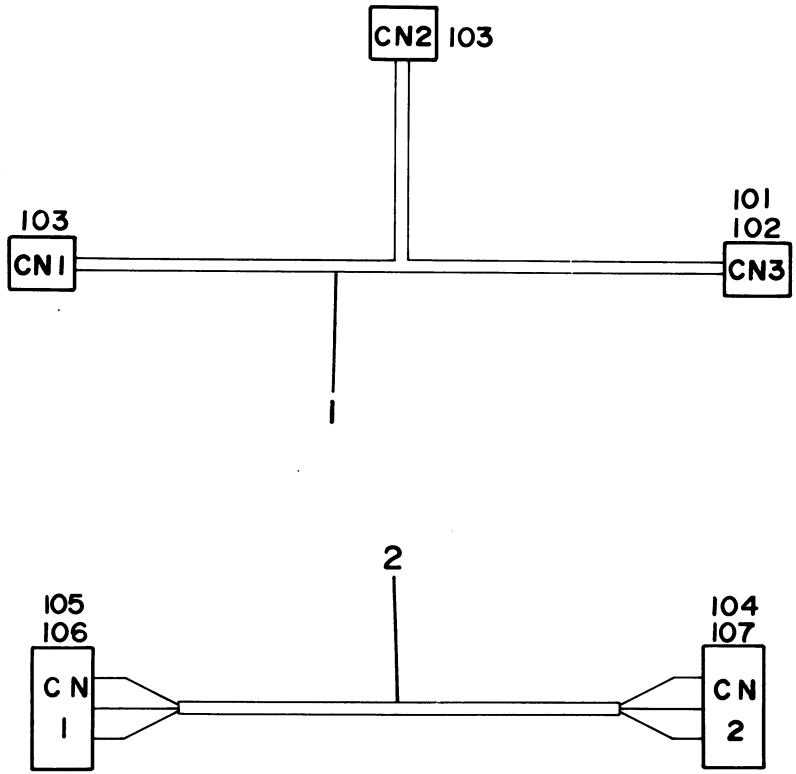
Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1259	Socket - Mate-N-Lock	
102	1102 1092	Connector - 9P	
103	1100 1328	Contact	
104	1102 1952	Connector - 2P	
105	1102 1953	Connector - 3P	
106	1102 1967	Connector - 6P	


1
101
103
CN1
CN2
102
104
2
105
107
CN1
106
109
CN3
105
108
CN2

45. CLEANER SENSOR HARNESS AND GATE SOLENOID HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AZ40 0004	Photointerruptor Harness	1
2	A007 5264	Gate Solenoid Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1327	Contact	
102	1100 1329	Socket Contact	
103	1102 1911	Connector - 3P	
104	1102 1983	Socket Housing - 3P	
105	1100 1159	Socket - Mate-N-Lock	
106	1100 1253	Pin - Mate-N-Lock	
107	1102 1396	Connector - 2P	
108	1102 1398	Connector - 2P	
109	1102 1861	Connector - 4P	


CN2
103
103
CN1
101
102
CN3
1
2
105
106
C N
1
104
107
C N
2

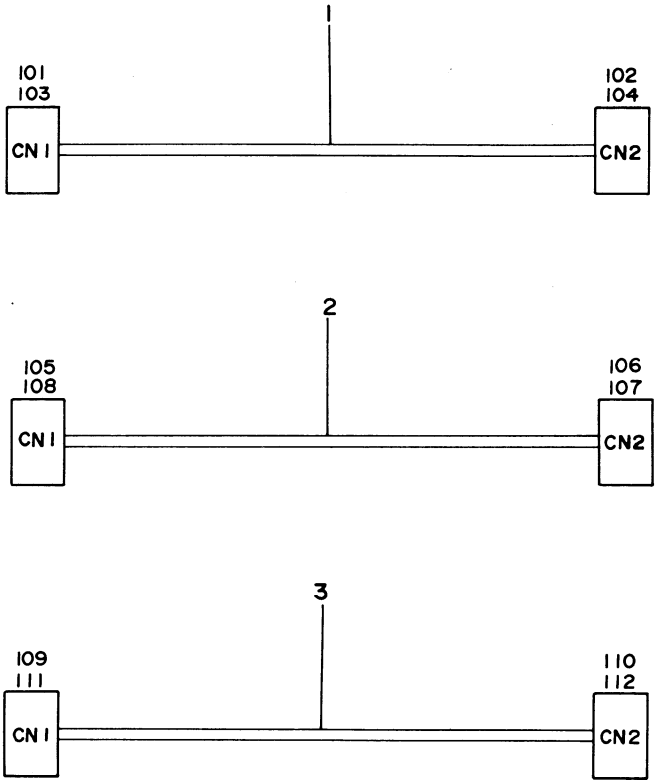
46. DUPLEX ENTRANCE HARNESS AND TONER END SENSOR HARNESS (A045/A046) August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5263	Duplex Entrance Harness	1
2	A007 5204	Tonner End Sensor Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1253	Pin - Mate-N-Lock	
102	1102 1790	Connector - 6P	
103	1103 1336	Connector - 3P	
104	1100 1253	Pin - Mate-N-Lock	
105	1100 1259	Socket - Mate-N-Lock	
106	1102 1089	Connector - 3P	
107	1102 1814	Connector - 3P	

47. DUPLEX STOPPER SOLENOID HARNESS, INVERTER GUIDE ENTRANCE HARNESS AND LED SENSOR HARNESS (A045/A046)

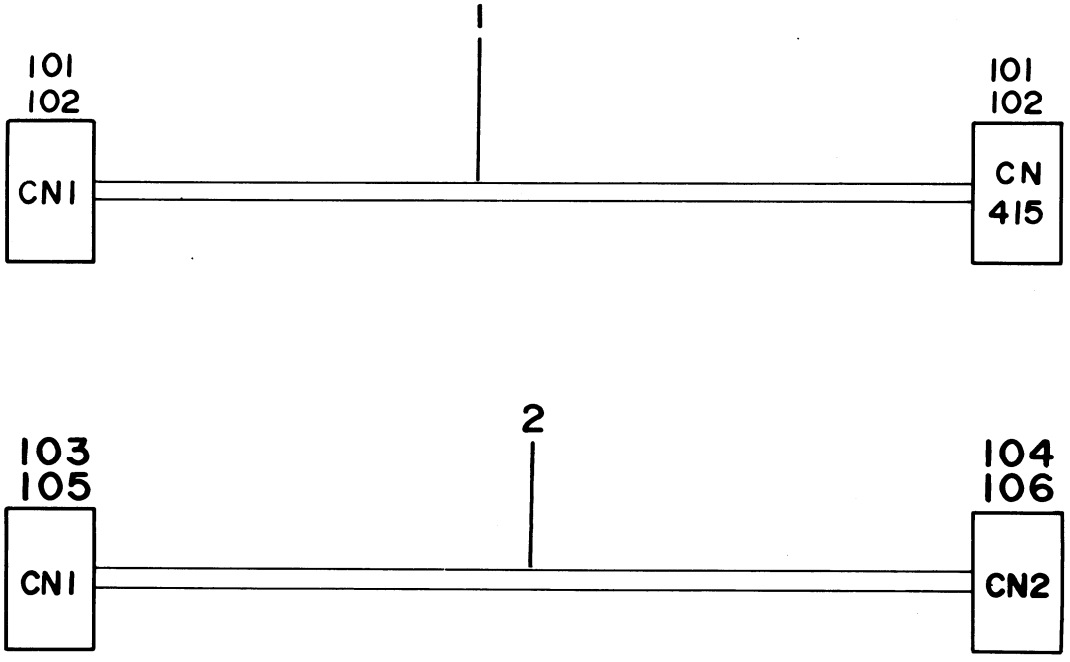
August 31, '89



47. DUPLEX STOPPER SOLENOID HARNESS, INVERTER GUIDE ENTRANCE HARNESS AND LED SENSOR HARNESS (A045/A046)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5262	Duplex Stopper Solenoid Harness	1
2	A007 5260	Inverter Guide Entrance Harness	1
3	A007 5265	LED Sensor Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1159	Socket - Mate-N-Lock	
102	1100 1253	Pin - Mate-N-Lock	
103	1102 1396	Connector - 2P	
104	1102 1860	Connector - 2P	
105	1100 1249	Receptacle Terminal	
106	1100 1253	Pin - Mate-N-Lock	
107	1102 1660	Receptacle Housing - 3P	
108	1102 1786	Connector - 3P	
109	1100 1249	Receptacle Terminal	
110	1102 1253	Connector - 15P	
111	1102 1620	Connector - 3P	
112	1102 1814	Connector - 3P	

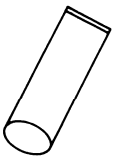
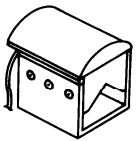
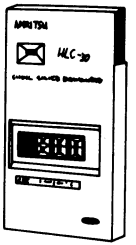
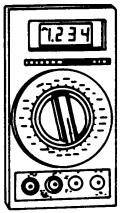
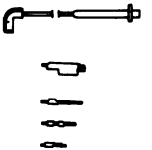
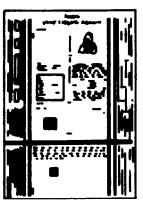
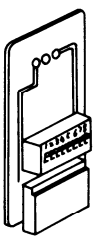
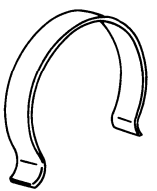
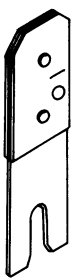
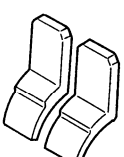
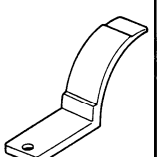

1
101
102
CN1
101
102
CN
415
2
103
105
CN1
104
106
CN2

48. TRANSPORT SENSOR HARNESS AND HOME SENSOR HARNESS (A045/A046)

August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 5254	Transport Sensor Harness	1
2	A007 5261	Home Sensor Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1249	Receptacle Terminal	
102	1102 1786	Connector - 3P	
103	1100 1249	Receptacle Terminal	
104	1100 1253	Pin - Mate-N-Lock	
105	1102 1620	Connector - 3P	
106	1102 1814	Connector - 3P	

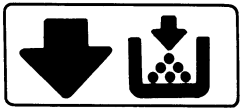
1 	2 	3 	4 	5 	6 	7 
8 	9 	10 	11 	12 	13 	14 
15 	16 	17 	18 			

49. SPECIAL TOOL (A045/A046)

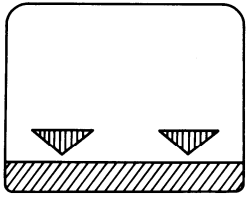
Index No.	Part No.	Description	Q'ty Per Assembly
1	5442 9101	Setting Powder	1
2	5442 9102	Light Shielding Bag	1
3	5442 9106	Drum Shoe	1
4	5420 9504	Thermo Meter - HLC	1
5	5420 9505	Probe - HLC-30	1
6	5420 9507	Digital Multimeter - BECKMAN RMS3030	1
7	5420 9508	Test Lead Kit	1
8	5420 9550	Silicone Oil	1
9	5442 9103	Launa Oil	1
10	5420 9516	Test Chart - OS - A3 (10pcs/set)	1
11	5447 9078	Heat Resisting Grease MT-78	1
12	5205 9601	Switching Board	1
13	5205 9111	Omega Clamp	1
14	5205 9101	Gap Gauge	1
15	5206 9600	Sensor Checker	1
16	A007 9500	DG Gauge - 0.76 (2pcs/set)	1
17	A008 9502	Silicone Grease - G40M	1
18	A007 9504	DG Gauge - 0.71/0.86	1

Index No.	Part No.	Description	Q'ty Per Assembly

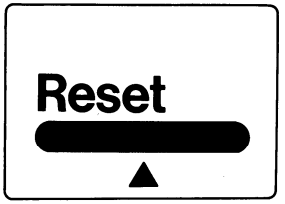
1



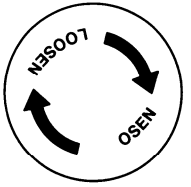
2



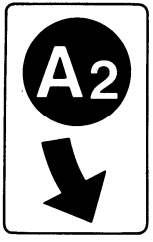
3



4



5



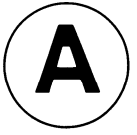
6



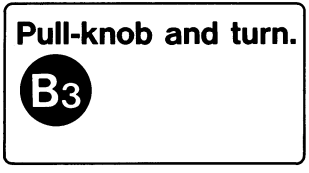
7



8



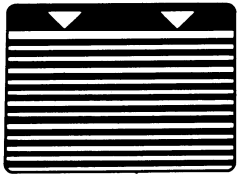
9



10



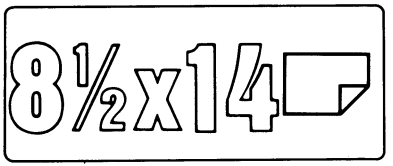
11



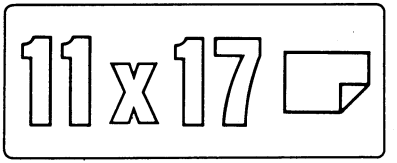
12



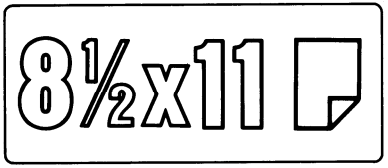
13



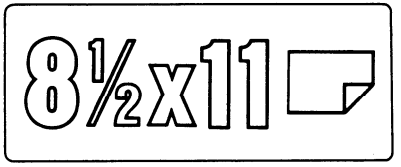
14



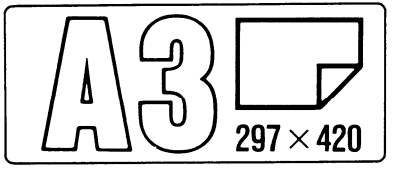
15



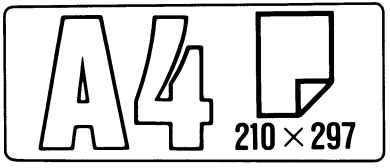
16



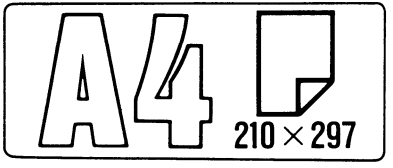
17



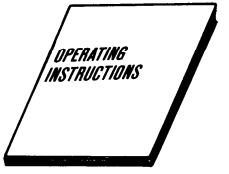
18



19



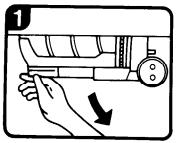
20



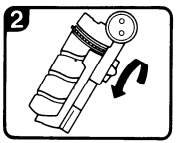
21

ADDITION TONER

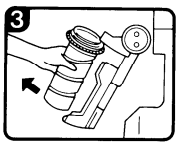
When Add Toner Indicator blinks, 50 more copies can be made.
Replace Toner Bottle promptly. When indicator stays lit, copies cannot be made until toner is added.



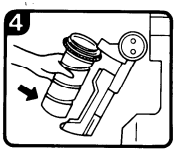
Grasp the bottle holder and gently but firmly pull down.



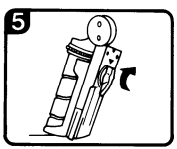
Turn the lever on reverse side of bottle holder counterclockwise.



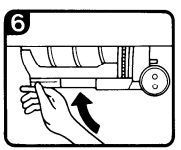
Remove empty Toner Bottle.



Place new Toner Bottle in the holder.



Turn lever clockwise until it locks.



Grasp bottle holder handle and pull up until holder meets magnetic catch.

22

A3 A4

A4
F

F
A4

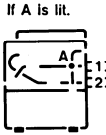
A3 A4

23

Removing Misfed Paper

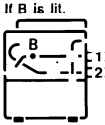
■ If the misfeed indicator lights, there is a misfeed inside the copier.

If A is lit.



1. Push down the knob (A) and lower the guide plate.
2. Remove misfed paper by turning the registration knob counterclockwise and to pushing down the lever (A).
3. Return guide plate to its original position with the lever (A).
4. If no paper was found at step 2, take out the paper cassette and remove any paper that remains in the feed entrance.

If B is lit.



1. Turn the lever (B) counterclockwise and lower the transport unit.
2. Turn the knob (B) counterclockwise. Remove any misfed paper, taking care not to tear it.
3. Pull out the fusing unit knob (B) and turn clockwise, while removing paper.
4. Turn lever (B) clockwise and return the transport unit to the original position.

If B is lit. Removing misfeed from fusing unit.

1. Push down the lever (B), grasp the fusing unit knob, and pull the fusing unit out. CAUTION: The fusing unit may be very hot, so be careful when touching it.
2. Push down the two (B) levers at the front and rear of the fusing unit. Swing down the fusing exit assembly.
3. Remove any misfed paper, being careful not to tear the paper or touch the fusing rollers.
4. After removing the misfed paper, return the fusing exit assembly back to its original position. Slide the fusing unit back into the copier.

If C is lit.



1. Pull any misfed paper out of the paper exit.
2. If no paper is in exit, push the tab (C) up in the direction of the arrow.
3. While holding the guide plate, pull out the misfed paper.

24

If D is lit.



1. Press the lever (D) firmly to the left and lower the fork gate unit.
2. Remove any misfed paper caught in the fork gate unit.
3. To close the fork gate unit, push up lever (D).
4. Check the inverter unit and remove any misfed paper caught inside.

Note:
If misfeed location indicator stays on after the front cover is closed, a misfeed may still be within the copier-Be sure to remove all misfed paper.
Do not touch the selenium drum when clearing misfeeds.

25

Removing Misfed Paper

■ If the misfeed indicator lights, there is a misfeed inside the copier.

If A is lit.





Push down the knob (A) and lower the guide plate.



Remove misfed paper by turning the registration knob counterclockwise and by pushing down the lever (A).

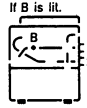


Return guide plate to its original position with the lever (A).



If no paper was found at step 2, take out the paper cassette and remove any paper that remains in the feed entrance.

If B is lit.





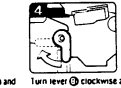
Turn the lever (B) counterclockwise and lower the transport unit.



Turn the knob (B) counterclockwise. Remove any misfed paper, taking care not to tear it.

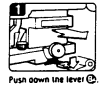


Pull out the fusing unit knob (B) and turn clockwise, while removing paper.



Turn lever (B) clockwise and return the transport unit to the original position.

If B is lit. Removing misfeed from fusing unit.



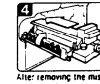
Push down the lever (B), grasp the fusing unit knob, and pull the fusing unit out. CAUTION : The fusing unit may be very hot, so be careful when touching it.



Push down the two (B) levers at the front and rear of the fusing unit. Swing down the fusing exit assembly.

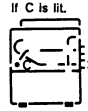


Remove any misfed paper, being careful not to tear the paper or touch the fusing rollers.



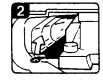
After removing the misfed paper, return the fusing exit assembly back to its original position. Slide the fusing unit back into the copier.

If C is lit.





Pull any misfed paper out of the paper exit.

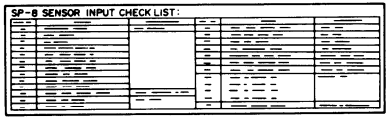


If no paper is in exit, push the tab (C) up in the direction of the arrow.

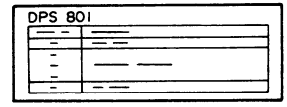


While holding the guide plate, pull out the misfed paper.

26



27



28

50. DECAL AND DOCUMENT

Index No.	Part No.	Description	Q'ty Per Assembly
*	A007 8672	Decal Sheet - French	1
*	A007 8671	Decal Sheet - German	1
*	A007 8674	Decal Sheet - Spanish	1
*	A007 8673	Decal Sheet - Italian	1
1	A007 3224	Decal - Adding Toner	1
2	A007 2802	Decal - Manual Feed Table	1
3	A007 6353	Decal - Reset	1
4	A007 6811	Decal - Drum Shaft Knob	1
5	AA00 1037	Decal - A2	1
6	AA00 1038	Decal - Regist Sensor	1
7	AA00 1062	Decal - Handle	1
8	5442 2769	Decal - A	1
9	AA00 1054	Decal - B3	1
10	5442 6126	Decal - High Temperature (220/240V)	1
10	5442 7043	Small Decal - High Temperature (115V)	1
11	5413 4835	Decal - Paper Level	1
12	5215 4211	Decal - Thermofuse	1
13	AA00 2003	Decal - 8-1/2″x14″	2
14	AA00 2004	Decal - 11″x17″	2
15	AA00 2005	Decal - 8-1/2″x11R″	2
16	AA00 2006	Decal - 8-1/2″x11″	2
17	AA00 2007	Decal - A3	2
18	AA00 2008	Decal - A4R	2
19	AA00 2009	Decal - A4	2
20	A045 8607	Operating Instructions - English (LT)	1
20	A045 8600	Operating Instructions - English (A4)	1
20	A045 8601	Operating Instructions - German	1
20	A045 8602	Operating Instructions - French	1
20	A045 8603	Operating Instructions - Italian	1
20	A045 8604	Operating Instructions - Spanish	1
21	A007 6351	Decal - Adding Toner	1
22	AA00 2035	Decal - Manual Feed (LT)	1
22	AA00 2030	Decal - Manual Feed - A3/A4	1
23	A007 6348	Decal - Misfeed Large	1
24	A007 6349	Decal - Misfeed Small	1
25	A007 6350	Decal - Misfeed	1
26	A007 6355	Decal - Sensor Checker	1
27	A007 1565	Decal - DIP SW	1
28	AA00 1071	Grip Decal - Fusing Cover	1

PARTS INDEX

Parts No.	Description	Page and Index No.
A045 1271	Front Cover (FT5570)	9-10
A045 1272	Front Cover (FT5550)	9-10
A045 1302	Upper Cover Bracket - ADF	9-55
A045 1303	Upper Cover Cap - ADF	9-2
A045 1331	Right Front Cover	9-20
A045 1451	Operation Panel Ass'y - LT	53-1
A045 1452	Operation Panel Ass'y - A4 (FT5570)	53-1
A045 1453	Operation Panel Ass'y - A4 (FT5550)	53-1
A045 1491	Instruction Card Holder	53-3
A045 1531	Instruction Card Holder Cover	53-2
A045 2758	Fixing Bracket	21-24
A045 2758	Fixing Bracket	23-24
A045 5101	Main Control Board (FT5550,5570)	57-27
A045 5101	Main Control Board (FT5550,5570)	63-*
A045 5103	IC - HN27512G25 (FT5550,5570)	63-4
A045 5120	Operation Panel Board	53-55
A045 5135	LCD Board	53-58
A045 5180	Optics Board	57-25
A045 5180	Optics Board	65-*
A045 5201	Reed Switch	13-40
A045 5216	Lens Housing Harness	61-17
A045 5216	Lens Housing Harness	71-3
A045 5216	Lens Housing Harness	77-1
A045 5243	DC Harness (FT5570)	59-17
A045 5243	DC Harness (FT5570)	71-1
A045 5243	DC Harness (FT5570)	73-1
A045 5249	Paper Feed Unit Harness	21-75
A045 5249	Paper Feed Unit Harness	59-1
A045 5249	Paper Feed Unit Harness	71-6
A045 5249	Paper Feed Unit Harness	81-1
A045 5251	Left Motor Harness	61-3
A045 5251	Left Motor Harness	71-8
A045 5251	Left Motor Harness	91-1
A045 5267	DC Harness (FT5550)	59-17
A045 5267	DC Harness (FT5550)	71-1

Parts No.	Description	Page and Index No.
A045 5267	DC Harness (FT5550)	73-1
A045 5281	Exposure Lamp Harness	13-30
A045 5451	AC Harness	61-19
A045 5451	AC Harness	71-2
A045 5451	AC Harness	75-1
A045 5601	Operation Panel Sheet - Duplex - LT	53-54
A045 5611	Operation Panel Sheet - Sorter - LT	53-54
A045 5621	Operation Panel Sheet - Finishing - LT	53-54
A045 5631	Panel Sheet - Auto Paper Select - LT	53-50
A045 5636	Panel Sheet - Enlarge/Reduce - LT	53-49
A045 5641	Panel Sheet - Auto Paper Select - A4	53-50
A045 5646	Panel Sheet - Enlarge/Reduce - A4	53-49
A045 5851	Bracket - Main Control Board	57-26
A045 5852	Cover - Main Control Board	57-32
A045 8600	Operating Instructions - English (A4)	111-20
A045 8601	Operating Instructions - German	111-20
A045 8602	Operating Instructions - French	111-20
A045 8603	Operating Instructions - Italian	111-20
A045 8604	Operating Instructions - Spanish	111-20
A045 8607	Operating Instructions - English (LT)	111-20
A046 1271	Front Cover (FT5540)	9-10
A046 5101	Main Control Board (FT5540)	57-27
A046 5101	Main Control Board (FT5540)	63-*
A046 5103	IC - HN27512G25 (FT5540)	63-5
A046 5243	DC Harness (FT5540)	59-17
A046 5243	DC Harness (FT5540)	71-1
A046 5243	DC Harness (FT5540)	73-1

Parts No.	Description	Page and Index No.
AA00 0017	Decal - Oil Tank - English	49-46
AA00 1037	Decal - A2	111-5
AA00 1037	Decal - A2	9-47
AA00 1038	Decal - Regist Sensor	111-6
AA00 1038	Decal - Regist Sensor	9-48
AA00 1054	Decal - B3	111-9
AA00 1054	Decal - B3	49-43
AA00 1062	Decal - Handle	111-7
AA00 1062	Decal - Handle	25-63
AA00 1071	Grip Decal - Fusing Cover	111-28
AA00 1071	Grip Decal - Fusing Cover	49-45
AA00 2003	Decal - 8-1/2″x14″	111-13
AA00 2003	Decal - 8-1/2″x14″	19-26
AA00 2004	Decal - 11″xl7″	111-14
AA00 2004	Decal - 11″x17″	19-26
AA00 2005	Decal - 8-1/2″x11R″	111-15
AA00 2005	Decal - 8-1/2″x11R″	19-26
AA00 2006	Decal - 8-1/2″x11″	111-16
AA00 2006	Decal - 8-1/2″x11″	19-26
AA00 2007	Decal - A3	111-17
AA00 2007	Decal - A3	19-26
AA00 2008	Decal - A4R	111-18
AA00 2008	Decal - A4R	19-26
AA00 2009	Decal - A4	111-19
AA00 2009	Decal - A4	19-26
AA00 2030	Decal - Manual Feed - A3/A4	111-22
AA00 2030	Decal - Manual Feed - A3/A4	9-30
AA00 2035	Decal - Manual Feed (LT)	111-22
AA00 2035	Decal - Manual Feed (LT)	9-30
AA01 0002	Ozone Filter	57-10
AA01 0009	Ozone Filter - 234x60x13	41-68
AA01 1005	PTL Filter	41-2
AA01 1005	PTL Filter	43-1
AA01 1008	QL - Filter	41-58
AA01 2005	Development Filter	35-30

Parts No.	Description	Page and Index No.
AA01 2006	Transport Fan Filter	57-9
AA02 0007	Inverter Unit Magnet	31-25
AA03 1001	Oil Tank	49-14
AA03 2002	Toner Collection Tank (220/240V)	47-14
AA03 2007	Toner Collection Tank (115V)	47-14
AA03 6003	Oil Bottle Cap	49-13
AA04 0007	Transport Belt	39-4
AA04 0008	Timing Belt - 228MXL	25-7
AA04 2001	Feed Drive Belt	27-20
AA04 3002	Timing Belt - 345PX	55-9
AA04 3003	Timing Belt - 222PX	55-31
AA04 3004	Timing Belt - 699PX	55-39
AA04 3005	Timing Belt - 200XL	55-19
AA05 0012	Scanner Drive Wire	13-17
AA05 0013	Jogger Fence Drive Wire	29-24
AA05 0014	Scanner Drive Wire	15-15
AA05 1002	Wire - Duplex Stopper Solenoid	29-61
AA06 0045	Tension Cleaner Spring	39-36
AA06 0045	Tension Cleaner Spring	41-7
AA06 0050	Tightener Spring	43-43
AA06 0051	Pressure Spring	51-8
AA06 0055	Spring - Inverter Pressure Release	31-39
AA06 0056	Pressure Spring	27-42
AA06 0057	Spring - Inverter Pressure	31-40
AA06 0059	Front Spring - Exit Roller	25-58
AA06 0060	Rear Spring - Exit Roller	25-59
AA06 0061	Spring - Fork Gate Lever	25-32
AA06 0062	Micro Switch Spring	25-33
AA06 0063	Tension Spring - Drum Drive (220/240V)	55-32
AA06 0064	Tension Spring	33-5
AA06 0064	Tension Spring	55-47
AA06 0065	Fusing Drive Spring - 50Hz	55-23
AA06 0066	Fusing Drive Spring - 60Hz	55-23
AA06 0082	Pick-up Lever Spring	61-11
AA06 0104	Tension Spring - Drum Drive (115V)	55-32

Parts No.	Description	Page and Index No.
AA06 0112	Pick-up Lever Spring - Upper	61-20
AA06 0113	Spring - Wire Tightner	15-34
AA06 0127	Spring - Duplex Stopper Cam	29-58
AA06 0132	Spring	21-53
AA06 0132	Spring	23-41
AA06 3018	Drum Flange Spring	41-43
AA06 3020	Feeler Spring	39-60
AA06 3020	Feeler Spring	41-16
AA06 3021	Paper Feed Separation Spring	21-44
AA06 3021	Paper Feed Separation Spring	23-58
AA06 3022	Spring - Front Lamp Terminal	51-10
AA06 3023	Cleaning Blade Spring	45-6
AA06 3024	Toner Receiving Spring	45-12
AA06 3025	PQC Terminal Spring	41-64
AA06 3025	PQC Terminal Spring	45-22
AA06 3027	Spring - Duplex Stopper Solenoid	29-51
AA06 3028	Spring - Fork Gate Stopper	25-24
AA06 3029	Separation Pressure Spring	29-50
AA06 3030	Duplex Spring	27-46
AA06 3031	Spring - Cleaning Blade	47-3
AA06 3041	Relay Roller Spring	43-8
AA06 3127	Spring - Positioning Pin	45-72
AA06 6012	Spring - Oil Pump Actuator	49-7
AA06 6014	Connector Shotter Spring	11-9
AA06 6018	Spring - Fork Gate Actuator	25-44
AA06 6019	Transport Spring	11-6
AA06 6019	Transport Spring	25-20
AA06 6020	Tension Spring	25-9
AA06 6021	Transport Lever Spring	39-21
AA06 6047	Fusing Entrance Spring	51-47
AA08 0010	Bushing - 6mm	37-27
AA08 0015	Bushing - 3x6x6mm	37-51
AA08 0016	Bushing - 5x7x16	49-9
AA08 0017	Supporter - Drive Roller	39-18
AA08 0020	Bushing - 8x16x5mm	27-22

Parts No.	Description	Page and Index No.
AA08 0021	Bushing - 6x12x4mm	27-29
AA08 0022	Bushing - 4x7x5mm	25-2
AA08 0031	Bushing	31-24
AA08 0037	Bushing - 6mm	25-25
AA08 0037	Bushing - 6mm	31-15
AA08 0037	Bushing - 6mm	33-34
AA08 2006	Bushing Bias Roller	45-9
AA08 3003	Bushing - 6x18x5mm	29-33
AA08 4003	Holder - Development Roller Bearing	37-23
AA11 1001	Charge Corona Feeler	41-17
AA11 3013	Rear Lamp Terminal	51-60
AA11 3014	Inner Insulator	51-61
AA11 3015	Front Outer Insulator	51-62
AA11 3016	Rear Outer Insulator	51-63
AA11 3023	Front Lamp Terminal	51-64
AA11 5003	Wire Clamp	51-18
AA12 0001	Anti-Static Brush - Fork Gate	25-61
AA12 0002	Anti-Static Brush - Fork Gate 4	25-55
AA12 0003	Anti - Static Brush - Duplex	25-16
AA13 0006	Idle Pulley	55-8
AA13 2020	Spacer - 8.5x20x0.5mm	37-48
AA13 2024	Spacer - M6	21-74
AA13 2024	Spacer - M6	23-68
AA13 2024	Spacer - M6	35-60
AA13 2024	Spacer - M6	51-26
AA13 2025	Spacer - 1x8x12mm	21-73
AA13 2025	Spacer - 1x8x12mm	23-67
AA13 2025	Spacer - 1x8x12mm	27-49
AA13 2025	Spacer - 1x8x12mm	33-9
AA13 2025	Spacer - 1x8x12mm	35-52
AA13 2025	Spacer - 1x8x12mm	43-45
AA14 0044	Pressure Arm Shaft	21-39
AA14 0044	Pressure Arm Shaft	23-35
AA14 0045	Pick UP Shaft	21-2
AA14 0045	Pick UP Shaft	23-6

Parts No.	Description	Page and Index No.
AA14 0046	Paper Feed Shaft - Upper	21-3
AA14 0046	Paper Feed Shaft - Upper	23-7
AA14 0049	Inverter Pressure Shaft	31-20
AA14 0054	Drum Support Shaft	41-40
AA14 0057	Transport Lock Shaft	39-57
AA14 0063	Feed Roller Arm Shaft	27-27
AA14 0073	Fusing Entrance Shaft	51-48
AA14 0135	Separation Shaft	21-35
AA14 0135	Separation Shaft	23-30
AA14 3029	Blade Swing Pin	45-29
AA14 3030	Front Position Pin	45-39
AA14 3032	Positioning Stud - End Block	45-25
AA14 3033	Stopper Screw	55-43
AA14 3035	Stud - Platen Cover Mounting	19-8
AA14 3047	Stepped Screw - M3	25-10
AA14 3235	Rear Position Pin	45-27
AA14 5027	Shutter Shaft	11-7
AA14 5029	Fusing Drive Shaft	55-28
AA14 5042	Feeler Shaft	31-46
AA15 0009	Shielding Mylar - Front Left	13-35
AA15 0010	Shielding Mylar - Front Center	13-37
AA15 0011	Shielding Mylar - Rear Left	13-34
AA15 0012	Shielding Mylar - 30x30	17-22
AA15 0013	Light Shielding Mylar - Front Left	13-36
AA15 0014	Light Shielding Mylar - Center	17-24
AA15 0015	Light Shielding Mylar - Lens	17-37
AA15 0019	Mylar Seal	57-34
AA15 1020	Seal - 2x16x20	37-52
AA15 1021	Seal - 3x7x55	37-36
AA15 1022	Anti-Static Brush-Development Unit	37-8
AA15 1023	Seal - 8x8x278	35-61
AA15 1024	Seal - Toner Hopper Entrance	35-10
AA15 1025	Seal - Toner Hopper Pipe	35-11
AA15 1026	Seal - Toner Shutter	35-8
AA15 1027	Seal - 3x16x57	21-42

Parts No.	Description	Page and Index No.
AA15 1028	Seal - 3x28x308	35-33
AA15 1029	Seal - 2x15x308	35-47
AA15 1030	Seal - 2x11x75	35-25
AA15 1030	Seal - 2x11x75	41-29
AA15 1031	Seal - Toner Hopper	35-49
AA15 1033	Seal - 4x12x211	35-46
AA15 1034	Seal - 2x3x53	35-36
AA15 1035	Seal - 2x3x45	35-37
AA15 1036	Seal - 2x16x53	35-38
AA15 1037	Seal - 2x16x45	35-39
AA15 1038	Seal - 4x16x210	35-34
AA15 1039	Seal - 2x51x60	35-23
AA15 1040	Seal - 3x72x172	35-27
AA15 1041	Seal - 2x50x58	35-51
AA15 1042	Seal - 3x5x142	37-42
AA15 1044	Seal - 3x8x40	37-43
AA15 1045	Seal - 3x5x41	37-44
AA15 1046	Seal - 2x2x5	37-28
AA15 1047	Seal - 2x5x10	37-32
AA15 1048	Seal - 2x5x28	37-31
AA15 1049	Seal - 2x17x94	37-45
AA15 1050	Seal - 2x12x64	37-47
AA15 1051	Seal - 2x5x10	37-30
AA15 1052	Lower Side Plate Seal - Large	37-29
AA15 1053	Seal - 6x12x7	37-57
AA15 1055	Separator Seal - Front	37-54
AA15 1056	Seal - 3x27x39	37-12
AA15 1057	Separator Seal - Rear	37-14
AA15 1058	Seal - 3x27x28	37-53
AA15 1059	Seal - 2x8x310	37-4
AA15 1060	Seal - 3x16x310	37-2
AA15 1061	Seal - 6x16x310	37-20
AA15 1062	Seal - 3x10x6.5	37-21
AA15 1063	Right Development Seal	37-10
AA15 1064	Seal - Cooling Fan	21-68

Parts No.	Description	Page and Index No.
AA15 1065	Seal - C&D Rail	41-33
AA15 1066	Seal - Sensor Duct	41-55
AA15 1067	Seal - 2x8x310	41-32
AA15 1068	Seal - 2x7x357	41-31
AA15 1069	Seal - 10x12x370	43-30
AA15 1070	Seal - Transport Upper	39-3
AA15 1071	Seal - Transport Lower	39-16
AA15 1072	Seal - 3x7x484	57-11
AA15 1073	Seal - 3x5x30	39-50
AA15 1074	Seal - 3x4x122	39-51
AA15 1075	Seal - Toner Collection	47-9
AA15 1076	Seal - Toner Collection Tank	47-16
AA15 1077	Seal - Blade Front	45-43
AA15 1078	Rubber Seal - Cleaning	45-19
AA15 1079	Seal - Blade Rear	45-20
AA15 1080	Seal - 12x10x318	45-5
AA15 1082	Seal - 11x16x2	45-47
AA15 1083	Seal - Inner	45-45
AA15 1085	Seal - Outer	45-44
AA15 1087	Seal - 2x15x15	15-3
AA15 1087	Seal - 2x15x15	17-21
AA15 1088	Seal - 2x20x28	17-23
AA15 1089	Seal - 6x32x32	15-29
AA15 1091	Seal - 2x8x110	17-28
AA15 1092	Seal - 3x42x270	17-4
AA15 1093	Seal - 3x25x170	17-2
AA15 1094	Seal - 2x50x48	17-5
AA15 2005	Side Seal - Cleaning Rear	45-21
AA15 2006	Side Seal - Cleaning Front	45-38
AA15 2007	Brush Seal - 6x7x144	17-6
AA15 2008	Seal - 5x6x40	17-7
AA15 2009	Brush Seal - 4x5x84	17-40
AA15 2010	Brush Seal - 5x10x64	17-41
AA15 2011	Brush Seal - 4x5x25	17-42
AA15 2012	Brush Seal - 4x4x40	17-38

Parts No.	Description	Page and Index No.
AA16 1014	Cushion - Motor	55-5
AA16 1015	Cushion - Lens	17-26
AA16 1016	Cushion - Fork Gate	25-51
AA16 1016	Cushion - Fork Gate	29-35
AA16 1017	Cushion - Junction Gate	31-26
AA16 1018	Cushion - Duplex Frame	27-34
AA16 1018	Cushion - Duplex Frame	29-20
AA16 1018	Cushion - Duplex Frame	31-41
AA16 1019	Cushion - Guide Rod	13-14
AA16 1019	Cushion Guide Rod	15-18
AA16 1020	Cushion Lens - 3x7x80	17-31
AA17 2003	Heat Shielding Sheet	49-37
AA18 0001	Oil Tube - 7.8mm	49-12
AA18 0007	Sleeve - Oil Pump	49-11
AA18 0008	Oil Tube 320mm	49-34
AB01 0011	Gear - 56T	39-24
AB01 0011	Gear - 56T	41-21
AB01 1005	Gear - 18T	39-15
AB01 1010	Gear - 16T	45-35
AB01 1011	Gear - 14T	45-33
AB01 1015	Gear - 27T	55-25
AB01 1017	Gear - 15T	35-20
AB01 1023	Gear - 15T	21-37
AB01 1023	Gear - 15T	23-33
AB01 1024	Gear - 25T	21-38
AB01 1024	Gear - 25T	23-34
AB01 3060	Gear - 27T	51-23
AB01 3062	Gear - 19T	49-25
AB01 3068	Gear - 30T	43-53
AB01 3071	Gear - 16	35-54
AB01 3076	Gear - 36T	51-17
AB01 3077	Gear - 20T	21-59
AB01 3077	Gear - 20T	23-38
AB01 3078	Gear - 18T	21-7
AB01 3078	Gear - 18T	23-13

Parts No.	Description	Page and Index No.
AB01 3079	Gear - 21T	21-8
AB01 3079	Gear - 21T	23-14
AB01 3080	Gear - 27T	33-21
AB01 3081	Gear - 18T - Gap Left	33-22
AB01 3082	Gear - 18T	33-20
AB01 3083	Gear - 18T	33-12
AB01 3084	Gear - 23T	31-35
AB01 3086	Gear - 30T	27-51
AB01 3087	Gear - 30T	27-21
AB01 3088	Helical Gear - 29T	29-47
AB01 3089	Gear - 30T	27-45
AB01 3090	Gear - 17T	49-26
AB01 3091	Gear - 39T	37-25
AB01 3092	Gear - 24T	37-49
AB01 3093	Worm Gear	35-26
AB01 3102	Gear - 47T	35-58
AB01 3105	Gear - 18T	27-12
AB01 3267	Gear - 17T	51-24
AB01 5001	Gear - 14T	35-4
AB01 7020	Drive Gear	43-51
AB01 7022	Pulley Gear - Fusing Drive	55-27
AB01 7027	Cam Gear - 34/21T	45-32
AB01 7029	Pulley Gear - Cleaning	55-36
AB01 7031	Sprocket - 16T/36T	33-7
AB01 7032	Idler Gear - Toner Hopper Rear	35-59
AB01 7033	Gear - Toner Cartridge Drive	35-5
AB01 7038	Gear - 32T	49-10
AB01 7039	Gear - 24/48T	17-9
AB02 3016	Sprocket - 18T/50Hz	55-17
AB02 3017	Sprocket - 15T/60Hz	55-17
AB02 3018	Sprocket - 15T	23-36
AB02 3018	Sprocket - 15T	43-39
AB02 6006	Sprocket - 23T	33-15
AB03 0014	Pulley - 42T/50Hz	55-2
AB03 0015	Pulley - 35T/60Hz	55-2

Parts No.	Description	Page and Index No.
AB03 0016	Pulley - 24T	55-10
AB03 0017	Pulley - 25T	25-13
AB03 0018	Pulley - 20T	25-12
AB03 0019	Gear - 36T	55-30
AB03 0020	Pulley - 20Z	55-37
AB03 0021	Idler Pulley	55-34
AB03 2014	Cleaner Drive Pulley	39-25
AB03 2014	Cleaner Drive Pulley	41-22
AB03 2015	Cleaner Idler Pulley	39-37
AB03 2015	Cleaner Idler Pulley	41-5
AB03 2016	Gear - 25T	25-8
AB03 2017	Feed Roller Pulley - 25T	27-28
AB03 2018	Scanner Drive Pulley	15-8
AB03 3009	Pulley - 36T/650Hz	55-16
AB03 3010	Pulley - 30T/60Hz	55-16
AC00 1010	Platen Cover Ass'y	19-*
AC01 2002	Exposure Glass - LT (FT5540)	13-33
AC01 2021	Exposure Glass - LT (FT5570)	13-33
AC01 2022	Exposure Glass - A3/A4	13-33
AC01 5001	Dust Proof Glass	41-26
AC02 0047	Lens 5/215 - 19	17-27
AC03 0013	1st Mirror	13-15
AC03 0014	2nd Mirror	15-20
AC03 0015	3rd Mirror	15-27
AC03 0016	4th Mirror	17-43
AC03 0017	5th Mirror	17-53
AC03 0018	6th Mirror	17-16
AC03 5003	Front Spring Plate - 4th Mirror	17-45
AC03 5004	Rear Spring Plate - 4th Mirror	17-44
AC03 5005	Front Spring Plate - 5th Mirror	17-51
AC03 5006	Rear Spring Plate - 5th Mirror	17-52
AC03 5007	Spring Plate - 6th Mirror	17-18
AC03 5008	Front Spring Plate - 1st Mirror	13-12
AC03 5009	Rear Spring Plate - 1st Mirror	13-11
AC03 5010	Front Spring Plate - 2nd Mirror	15-21

Parts No.	Description	Page and Index No.
AC03 5011	Rear Spring Plate - 2nd Mirror	15-22
AC03 5012	Front Spring Plate - 3rd Mirror	15-26
AC03 5014	Rear Spring Plate - 3rd Mirror	15-28
AC04 1034	Left Scale - LT	9-3
AC04 1035	Left Scale - A3/A4	9-3
AC05 0002	Guide Rod - Scanner	13-18
AC05 0002	Guide Rod - Scanner	15-16
AC05 1001	Guide Rod - Magnification	17-49
AD00 2003	Cleaning Unit	45-*
AD00 4003	Charge Corona Unit	41-1
AD00 4006	T&S Corona Unit	39-63
AD02 1007	Receptacle - PCC	41-51
AD02 1008	Receptacle - PQC	41-52
AD02 1009	Bias Receptacle	41-53
AD02 1012	Main Corona Receptacle	41-56
AD02 1057	T&S Corona Receptacle	39-55
AD02 2011	Front End Block - Charge Corona	41-18
AD02 2012	Rear End Block - Charge Corona	41-8
AD02 2013	Front Cover - Charge Corona	41-25
AD02 2014	Rear Cover - Charge Corona	41-11
AD02 2016	Front End Block - PCC	45-40
AD02 2017	Front Cover PCC End Block	41-65
AD02 2017	Front Cover - PCC End Block	45-41
AD02 2018	Rear End Block - PCC	45-24
AD02 2019	Rear Cover - PCC End Block	41-62
AD02 2019	Rear Cover - PCC End Block	45-15
AD02 2022	Front End Block - T&C	39-44
AD02 2023	Front End Block Cover - T&C	39-23
AD02 2024	Rear End Block - T&S	39-35
AD02 2025	Rear End Block Cover - T&C	39-31
AD02 3008	Charge Corona Casing	41-3
AD02 3015	T&S Corona Casing	39-41
AD02 4001	Adjusting Screw	41-14
AD02 4003	Terminal Spring - T&S	39-32
AD02 5001	Pick-off Pawl	45-65

Parts No.	Description	Page and Index No.
AD03 0001	Doctor Blade	37-3
AD03 1020	Development Roller	37-24
AD03 3001	Toner Supply Shaft	35-42
AD03 6001	Back Spill Plate	37-19
AD03 7001	Development Anger	37-18
AD03 8002	Paddle Roller	37-34
AD03 9001	Toner Agitator	35-40
AD03 9003	Toner Agitator	37-56
AD04 2006	Cleaning Brush	45-51
AD04 3004	Toner Collection Coil	45-52
AD04 5001	Cleaning Brush Roller	45-50
AE01 1001	Hot Roller	51-3
AE02 0001	Pressure Roller	51-43
AE03 0002	Ball Bearing 10x26x8	51-41
AE03 2001	Bushing - 20mm	51-12
AE04 3003	Oil Blade	51-40
AE04 5001	Oil Supply Pad	51-32
AF01 0003	Feed Roller	27-16
AF01 2004	Cassette Cover - Large	19-18
AF01 2008	Cassette Cover - Small	19-18
AF02 0018	Transport Roller - 20mm	25-3
AF02 0021	Upper Registration Roller	43-24
AF02 0022	Lower Registration Roller	43-25
AF02 0023	Upper Middle Roller	43-54
AF02 0024	Lower Middle Roller	43-7
AF02 0026	Transport Roller - 16mm	25-4
AF02 0027	Exit Roller - Entrance Guide Plate	25-56
AF02 0029	Inverter Return Roller	25-6
AF02 0030	Inverter Roller	33-24
AF02 0031	Inverter Pressure Roller	31-19
AF02 0056	Inverter Return Roller	31-11
AF02 2003	Inverter Return Roller	31-32
AF02 5001	Junction Gate	31-29
AF02 5002	Fork Gate Pawl - Large	25-52
AF02 5003	Fork Gate Pawl - Small	25-53

Parts No.	Description	Page and Index No.
AF03 0001	Duplex Pick-up Roller	27-15
AF03 1001	Duplex Positioning Roller	27-19
AF04 0005	Lower Exit Roller	49-16
AF04 0006	Exit Roller	33-28
AF04 3001	Receiving Tray	9-4
AG02 1001	Original Holder	19-29
AG05 0019	Fusing Unit Knob	49-35
AG05 1003	Transport Handle Rod	11-21
AW00 0002	Fiber Connector	63-1
AW40 0003	Toner Density Sensor	43-3
AW40 0005	Paper Registration Sensor	43-2
AX02 0028	Paper Feed Motor	55-18
AX02 0029	Cooling Blower - AC50HZ 20.5W/60Hz 18W	15-6
AX02 0030	Main Drive Motor - AC 39.5W	55-15
AX02 0031	Development Motor - AC 28W	55-1
AX04 0004	Cooling Fan Motor	21-67
AX04 0006	Blower Fan	41-47
AX04 0007	Exhaust Fan Motor	57-29
AX05 0008	Transport Fan Motor	57-12
AX06 0023	Scanner Motor - DC 42W	15-10
AX10 0005	Duplex Positioning Solenoid	27-53
AX11 0006	Duplex Pick-up Solenoid	27-37
AX11 0011	Pick-up Solenoid - Manual Feed	61-8
AX20 0017	Magnetic Clutch - Registration	43-44
AX20 0018	Paper Feed Clutch	21-52
AX20 0018	Paper Feed Clutch	23-40
AX20 0019	Magnetic Clutch - Toner Supply	55-11
AX20 0020	Magnetic Clutch-Duplex Feed	27-43
AX20 0021	Transport Magnetic Clutch	43-49
AX44 0008	Heater - 750W - 115V	51-4
AX44 0009	Heater - 800W - 220V	51-4
AX50 0008	PRE - Transfer Lamp 430V/1.3W	43-22
AX50 0010	Eraser	41-27
AX50 0011	Quinching Lamp	41-50
AX52 0005	Exposure Lamp - 85V/160W	13-5

Parts No.	Description	Page and Index No.
AY11 0001	AC Drive Board - 115V	59-6
AY11 0001	AC Drive Board - 115V	69-*
AY11 0002	AC Drive Board - 220/240V	59-6
AY11 0002	AC Drive Board - 220/240V	69-*
AZ14 0006	Transformer 220V,240V/100V,327VA	57-31
AZ23 0002	DC Control Unit	59-8
AZ31 0001	Power Pack - PCC	57-13
AZ32 0006	Power Pack - T&S	57-16
AZ32 0007	Power Pack - PQC&BR	57-1
AZ40 0003	DC Motor Harness	59-4
AZ40 0003	DC Motor Harness	71-5
AZ40 0003	DC Motor Harness	95-2
AZ40 0004	Photointerruptor Harness	39-46
AZ40 0004	Photointerruptor Harness	41-20
AZ40 0004	Photointerruptor Harness	97-1
AZ50 0002	CFL Stabilizer	57-6
A000 5507	Lift Motor - DC1.69W	21-60
A000 5507	Lift Motor - DC1.69W	23-47
A007 1065	Upper Left Stay	11-2
A007 1066	Upper Right Stay	11-3
A007 1068	Leaf Spring - Transport Handle	11-15
A007 1082	Main Drive Motor Bracket	55-14
A007 1091	Fusing Drive Unit Bracket	55-26
A007 1100	Timing Belt Tension Bracket	55-29
A007 1103	Tension Lever - Fusing Drive	55-24
A007 1105	Support Plate - Motor Shaft	55-48
A007 1107	Support Plate Stud	55-49
A007 1108	Perforated Disk	55-40
A007 1112	Photointerruptor Bracket	55-41
A007 1114	Pulley & Gear - 36T/45T	43-50
A007 1114	Pulley & Gear - 36T/45T	55-35
A007 1117	Idle Pulley Bracket	55-33
A007 1123	Tension Lever - Drum Drive	55-38
A007 1125	Right ADF Bracket	61-1
A007 1128	ADF Support Bracket	59-10

Parts No.	Description	Page and Index No.
A007 1129	Left ADF Bracket	61-18
A007 1130	Exit Cover	59-9
A007 1140	Bushed Roller Chain - 160P	33-2
A007 1257	Front Cover Bracket	9-14
A007 1294	Magnet Catch Plate	53-9
A007 1308	Inner Cover - Registration Sensor	9-17
A007 1310	Operation Panel Bracket - Right	53-8
A007 1311	Operation Panel Bracket - Left	53-6
A007 1312	Operation Panel Bracket - Center	53-7
A007 1313	Operation Panel Support Bracket	53-5
A007 1314	Bracket - Right Front Cover	9-22
A007 1315	Upper Bracket - Right Rear Cover	9-38
A007 1316	Bottom Bracket - Right Rear Cover	9-37
A007 1321	Lower Inner Cover (FT5550)	9-18
A007 1391	Band - Front Cover	9-11
A007 1461	Key Top Base - A	53-61
A007 1462	Key Top Base - B	53-60
A007 1521	Slide Rail Base	53-59
A007 1531	Slide Cover (LT)	53-11
A007 1535	Slide Cover (A4)	53-11
A007 1565	Decal - DIP SW	111-27
A007 1565	Decal - DIP SW	53-42
A007 1663	Stepping Motor Cover	17-13
A007 1664	Seal - Stepping Motor Cover	17-14
A007 1670	Optics Right Frame	15-2
A007 1675	Mounting Bracket Scale	13-32
A007 1680	Exposure Glass Stay (FT5540)	13-38
A007 1686	Cooling Blower Bracket	15-7
A007 1691	Optics Fan Filter Bracket	15-4
A007 1694	Optics Fan Filter	15-5
A007 1700	Front Bracket - 6th Mirror	17-19
A007 1701	Rear Bracket - 6th Mirror	17-48
A007 1706	Magnification Drive Motor - DC4.8W	17-12
A007 1707	Magnification Motor Bracket	17-10
A007 1709	Mirror Drive Pulley - 80T	17-8

Parts No.	Description	Page and Index No.
A007 1716	Lens Drive Pulley - 80T	17-15
A007 1721	Lens Unit Base	17-63
A007 1722	Cam Plate - Lens Shield	17-46
A007 1727	Actuator Plate- Lens Home Sensor	17-36
A007 1729	Lens Fixing Plate	17-25
A007 1741	Lens Shield	17-35
A007 1742	Front Lens Shield	17-34
A007 1744	Rear Shield - Lens	17-33
A007 1751	Lens Shielding Cover	17-32
A007 1761	4th and 5th Mirror Bracket	17-50
A007 1770	Guide Bracket - Lens Shield	17-54
A007 1776	Lens Home Sensor Bracket	17-56
A007 1781	Mirror Home Sensor Bracket	17-58
A007 1785	Harness Guide - Exposure Lamp	17-47
A007 1791	Mirror Cover	17-3
A007 1793	Lens Bracket	17-30
A007 1794	Plate - Lens Bracket	17-64
A007 1799	Lens Bracket	17-62
A007 1801	Scanner Home Sensor Bracket	15-31
A007 1806	Scanner Sensor Bracket	15-12
A007 1810	Scanner Motor Bracket	15-9
A007 1815	Support Bracket - Optics Frame	15-30
A007 1818	Exposure Glass Stay (FT5550,5570)	13-38
A007 1826	Left Pulley Bracket	15-33
A007 1836	Center Pulley Bracket	15-13
A007 1845	Wire Clamp	13-16
A007 1848	Guide Rod Cleaner	13-13
A007 1848	Guide Rod Cleaner	15-17
A007 1851	1st Scanner	13-19
A007 1860	Reflector Clamp	13-3
A007 1865	Main Reflector	13-10
A007 1867	Insulator - Lamp Terminal	13-20
A007 1868	Spacer - Lamp Terminal	13-24
A007 1870	Reflector Cover	13-7
A007 1873	Front Cover - Lamp Terminal	13-9

Parts No.	Description	Page and Index No.
A007 1875	Rear Cover - Lamp Terminal	13-8
A007 1877	Exposure Lamp Terminal - Fix	13-22
A007 1880	1st Scanner Slider	13-29
A007 1890	Harness Bracket - Exposure Lamp	13-31
A007 1892	Rear Cover - Optical Fiber	13-25
A007 1894	Rear Bracket - Optical Fiber	13-26
A007 1901	2nd Scanner	15-19
A007 1915	2nd Scanner Slider	15-24
A007 1925	Scanner Guide Plate	15-25
A007 1930	Vacuum Fan Duct	31-1
A007 1951	Front Platen Cover	19-2
A007 2051	C&D Rail	41-34
A007 2078	Upper Charge Corona Sheet	41-71
A007 2079	Side Charge Corona Sheet	41-72
A007 2101	PTL Guide	43-18
A007 2108	DC Harness Bracket	59-15
A007 2109	PTL Guide Cover	43-17
A007 2110	PTL Guide Sheet	43-16
A007 2115	Density Sensor Bracket	43-42
A007 2116	Density Sensor Connector Bracket	43-41
A007 2116	Density Sensor Connector Bracket	59-16
A007 2121	Drum Stay Support Bracket	41-35
A007 2125	Side Plate - Behind Drum	11-11
A007 2129	Development Rear Holder	43-38
A007 2133	Drum Stay Support Plate	41-39
A007 2137	Drum Stay Support Bracket	41-44
A007 2140	Drum Shaft Knob	41-37
A007 2145	Front Drum Flange	41-42
A007 2146	Blower Duct	41-49
A007 2149	Bracket - Blower	41-48
A007 2152	Air Guide Plate	41-30
A007 2155	ID Sensor Duct	41-54
A007 2208	Drum Guide	41-46
A007 2267	Drum Drive Pulley - 112V	41-57
A007 2577	Registration Knob	43-14

Parts No.	Description	Page and Index No.
A007 2592	Transport Guide	43-10
A007 2597	Cushion Transport Guide	43-11
A007 2599	Paper Detect Feeler - Transport	21-27
A007 2601	Transport Roller Sensor Shutter	21-29
A007 2602	Transport Roller Sensor Bracket	21-28
A007 2604	Transport Upper Guide	43-58
A007 2605	Guide - Transport AID	43-59
A007 2606	Release Transport Guide Lever	43-4
A007 2608	Cushion - Transport Upper Guide	43-57
A007 2614	Registration Lower Guide	43-29
A007 2615	Upper Feed Guide	21-71
A007 2616	Registration Upper Guide	43-31
A007 2619	Transport Middle Guide	43-35
A007 2620	Transport Middle Guide - Upper	43-33
A007 2622	Separate Lower Guide	43-56
A007 2623	Separate Duplex Guide	43-55
A007 2626	Cushion - Transport Middle	43-36
A007 2628	Cushion - Registration Upper Guide	43-32
A007 2631	Pick-up Guide - Lower	23-10
A007 2632	Knob - Transport Middle Guide	43-37
A007 2637	Lower Registration Guide	43-26
A007 2640	Paper Bank Guide - Duplex	43-61
A007 2643	Paper Bank AID 1 - Duplex	43-62
A007 2644	Paper Bank AID 2 - Duplex	43-60
A007 2649	Separation Guide	21-46
A007 2649	Separation Guide	23-66
A007 2653	Paper Feed Brace - Upper	21-45
A007 2655	Separation Fixed Bracket	21-36
A007 2655	Separation Fixed Bracket	23-69
A007 2657	Separation Arm	21-43
A007 2657	Separation Arm	23-32
A007 2661	Paper Size Sensor Bracket	21-47
A007 2661	Paper Size Sensor Bracket	23-63
A007 2675	Paper Feed Stay - Lower	23-59
A007 2684	Bracket - Paper Feed Roller	21-5

Parts No.	Description	Page and Index No.
A007 2686	Feed Guide - Paper Feed Roller	21-4
A007 2686	Feed Guide - Paper Feed Roller	23-8
A007 2689	Stay - Paper Feed	21-1
A007 2698	Upper Magnetic Clutch Stopper	21-51
A007 2709	Paper Feed Roller Bracket	23-12
A007 2712	Lower Paper Feed Stay	23-1
A007 2713	Magnetic Clutch Stopper	43-48
A007 2718	Paper End Feeler	21-70
A007 2718	Paper End Feeler	23-2
A007 2720	Paper End Actuator Bracket	21-66
A007 2722	Upper Bracket - Paper End	21-14
A007 2724	Lower Bracket - Paper End	23-18
A007 2725	Paper End Shutter - Upper	21-12
A007 2726	Paper End Actuator Bracket	23-3
A007 2733	Feed Control Board Bracket	61-14
A007 2738	Solenoid Upper Bracket	61-12
A007 2740	Support Bracket 1 - Feed Control	61-5
A007 2741	Support Bracket 2 - Feed Control	61-16
A007 2742	Shutter Plate	61-9
A007 2748	Solenoid Lower Bracket	61-13
A007 2749	Pick-up Arm - Manual Feed	61-6
A007 2752	Volume Sensor Shaft	21-48
A007 2752	Volume Sensor Shaft	23-60
A007 2754	Bottom Plate Lever	21-49
A007 2754	Bottom Plate Lever	23-61
A007 2756	Bushing - Volume Sensor Shaft	21-26
A007 2756	Bushing - Volume Sensor Shaft	23-22
A007 2757	Sector Gear Bushing	21-25
A007 2757	Sector Gear Bushing	23-23
A007 2759	Sector Gear	21-77
A007 2759	Sector Gear	23-54
A007 2781	Paper Dust Scraper Bracket	43-66
A007 2782	Paper Dust Scraper	43-65
A007 2783	Paper Dust Scraper Paper	43-23
A007 2793	Manual Feed Table	9-31

Parts No.	Description	Page and Index No.
A007 2794	Manual Feed Cover	9-32
A007 2796	Guide - Manual Feed - Front	9-27
A007 2797	Guide - Manual Feed - Rear	9-28
A007 2800	Manual Feed Table Support	9-34
A007 2802	Decal - Manual Feed Table	111-2
A007 2802	Decal - Side Fence - Manual Feed	9-29
A007 2803	Manual Feed Table Holder	21-72
A007 2803	Manual Feed Table Holder	9-23
A007 2805	Manual Feed Sensor Bracket	21-65
A007 2817	Spring Plate - Manual Feed	9-51
A007 2873	Guide - Cassette - Holder - Front	23-65
A007 2874	Guide - Cassette - Holder - Rear	23-64
A007 2877	Cushion - Upper Pick-off Bracket	23-56
A007 2878	Cushion - Lower Pick-off Bracket	23-57
A007 2893	Upper Paper Feed Bracket	21-64
A007 2894	Cushion - 8x15x30	11-13
A007 2894	Cushion - 8x15x30	21-63
A007 2894	Cushion - 8x15x30	23-5
A007 2896	Seal - 8x8x368	21-62
A007 2901	Paper Feed Motor Bracket	55-13
A007 2903	Chain Tightener	43-40
A007 2909	Bushed Roller Guide Bracket	43-47
A007 2910	Bushed Roller Chain - 106P	43-52
A007 2950	Cassette Body - Small	19-25
A007 2955	Cassette Body - Large	19-25
A007 3051	Development Unit	35-*
A007 3054	Development Bottom Plate Ass'y	37-41
A007 3055	Development Bottom Plate	37-58
A007 3061	Front Lower Side Plate	37-38
A007 3062	Seal Plate - Lower Side Plate	37-35
A007 3071	Rear Lower Side Plate	37-37
A007 3075	Side Plate Bracket - Dev Unit	37-46
A007 3082	Seal Plate - Upper Side Plate	37-11
A007 3126	Bearing Retainer	37-50
A007 3128	Adjusting Plate - Magnet Angle	37-17

Parts No.	Description	Page and Index No.
A007 3135	Idle Gear - 17T	37-26
A007 3141	Front Upper Side Plate	37-13
A007 3151	Rear Upper Side Plate	37-55
A007 3162	Seal - Doctor Blade 1	37-5
A007 3176	Filter Bracket - Development Unit	35-31
A007 3191	Entrance Seal Retainer	37-9
A007 3194	Guide Plate - Anti Static Brush	37-7
A007 3195	Guide Plate - Development Unit	35-62
A007 3197	Development Unit Clamp	41-59
A007 3198	Development Unit Guide	37-1
A007 3199	Toner Supply Unit	35-*
A007 3223	Toner Supply Bracket	35-16
A007 3224	Decal - Adding Toner	111-1
A007 3224	Decal – Adding Toner	35-65
A007 3230	Toner Supply Cover	35-17
A007 3251	Toner Hopper Pipe	35-12
A007 3256	Toner Hopper Pipe Cover	35-7
A007 3271	Toner Shutter	35-9
A007 3281	Toner Shutter Rack	35-21
A007 3286	Bottle Release Lever	35-19
A007 3290	Toner Hopper Pipe Cover	35-13
A007 3311	Seal - Toner Supply Shaft	35-41
A007 3321	Lower Hopper Case Ass'y	35-43
A007 3322	Lower Hopper Case	35-44
A007 3341	Upper Hopper Case Ass'y	35-32
A007 3342	Upper Hopper Case	35-35
A007 3343	Toner Agitator Scraper	35-63
A007 3350	Front Side Plate Ass'y - Toner Tank	35-29
A007 3351	Front Side Plate - Toner Tank	35-28
A007 3360	Hopper Side Plate Ass'y - Rear	35-48
A007 3361	Hopper Side Plate - Rear	35-50
A007 3376	Cam Wheel - Toner End	35-57
A007 3380	Actuator - Toner End	35-55
A007 3388	Rack Guide Bracket	35-24
A007 3391	Cartridge Drive Bracket	35-6

Parts No.	Description	Page and Index No.
A007 3395	Toner Hopper Casing Sheet	35-45
A007 3411	Development Motor Bracket	55-6
A007 3425	Helical Gear	55-3
A007 3430	Joint Shaft - Toner Supply	55-4
A007 3441	Support Bracket - Development Motor	55-12
A007 3455	Tightener Bracket	55-7
A007 3461	Development Support Solenoid	55-44
A007 3466	Solenoid Bracket	55-45
A007 3480	Development Bias Receptacle	43-46
A007 3486	Toner End Sensor Bracket	21-76
A007 3487	Toner End Sensor Cover	21-41
A007 3495	Cooling Fan Cover	21-69
A007 3497	Development Unit Rail	17-17
A007 3551	Front Side Plate - Cleaning	45-28
A007 3561	Rear Side Plate - Cleaning	45-17
A007 3570	Cleaning Brush Drive Shaft	45-49
A007 3572	Cleaning Brush Joint	45-16
A007 3582	Upper Casing - Cleaning Unit	45-3
A007 3583	Seal - Upper Casing	45-2
A007 3584	Cleaning Blade Cleaner	45-4
A007 3590	Lower Casing Ass'y - Cleaning Unit	45-60
A007 3591	Lower Casing - Cleaning Unit	45-57
A007 3593	Outer Holder - Beater Bar	45-55
A007 3594	Inner Holder - Beater Bar	45-56
A007 3602	Cleaning Brush Holder	45-37
A007 3614	Spring Brush - Bias Roller	45-8
A007 3631	Cleaning Blade Holder	45-71
A007 3642	Pressure Arm - Cleaning Blade	45-11
A007 3655	Cleaning Grounding Plate	45-26
A007 3685	Ger Support Bracket Cleaning	45-31
A007 3690	PQC - Casing	41-63
A007 3705	Blade Solenoid Bracket	47-7
A007 3709	Clamp - T&S Corona Receptacle	47-22
A007 3712	Pick-off Solenoid	47-4
A007 3713	Pressure Lever	47-1

Parts No.	Description	Page and Index No.
A007 3717	Pick-off Pawl Lever	47-2
A007 3722	Cleaning Drive Bracket	55-22
A007 3724	Blade Solenoid	47-18
A007 3727	Bracket - Pick-off Pawl Solenoid	47-21
A007 3751	Cap Large - Toner Collection Tank	47-15
A007 3762	Sensor Holder	47-12
A007 3770	Leaf Spring - Toner Collection Tank	47-10
A007 3780	Toner Collection Bracket	47-8
A007 3781	Right Bracket - Toner Collection	47-19
A007 3782	Left Bracket - Toner Collection	47-20
A007 3783	Toner Receiver Collection	47-13
A007 3784	Pipe - Toner Collection Receiver	47-5
A007 3791	Ozone Filter Bracket	41-69
A007 3862	Feeler Holder	39-64
A007 3863	Separation Corona Cleaner	39-29
A007 3867	Paper Guide - T&S Corona	39-39
A007 3868	Separation Cleaner Slider	39-28
A007 3870	Tension Bracket - Wire Cleaner	39-38
A007 3872	Cleaner Drive Wire - Separation	39-27
A007 3875	Sensor Feeler - Separation Corona	39-43
A007 3877	T&S Corona Casing	39-49
A007 3882	Connector Bracket	39-11
A007 3883	T&S Corona Cover	39-62
A007 3885	PTL Guide Holder	43-21
A007 3886	PTL Guide Plate	43-20
A007 3901	Base Plate - Transport Unit	39-14
A007 3905	Transport Guide Plate - Front	39-1
A007 3907	Transport Guide Plate - Rear	39-2
A007 3911	Leaf Spring - Transport	39-10
A007 3915	Drive Roller	39-9
A007 3927	Transport Duct	39-52
A007 3928	Transport Fan Cover	57-8
A007 3932	Leaf Spring - Micro Switch	39-59
A007 3934	Transport Lock Lever	39-56
A007 3939	Transport Lever	39-22

Parts No.	Description	Page and Index No.
A007 3941	Transport Switch Bracket	39-54
A007 3971	Drive Roller - Transport Belt	39-5
A007 3974	Transport Drive Shaft Bracket	39-12
A007 4017	Fusing Unit - 115V	49-*
A007 4027	Fusing Unit - 220V	49-*
A007 4151	Fusing Side Frame - Rear	51-27
A007 4161	Fusing Side Frame - Front	51-5
A007 4171	Pressure Lever	51-9
A007 4178	Thermistor Mounting Frame	51-38
A007 4179	Upper Entrance Guide Plate - Fusing	51-35
A007 4192	Fusing Connector Bracket	51-19
A007 4195	Oil Sump	51-34
A007 4212	Left Fusing Rail	51-2
A007 4217	Fusing Unit Stopper	51-1
A007 4221	Oil Pan	51-49
A007 4228	Silicon Oil Nozzle	49-33
A007 4229	Fusing Unit Cover	49-36
A007 4232	Leaf Spring - Heat Shield	49-38
A007 4240	Oil Supply Bracket	49-6
A007 4251	Oil Pump Actuator	49-8
A007 4253	Leaf Spring - Oil End Sensor	49-39
A007 4273	Front Lamp Terminal Bracket	51-11
A007 4281	Lower Entrance Guide Plate - Fusing	51-44
A007 4282	Right Fusing Rail	51-54
A007 4283	Right Fusing Rail Bracket	51-55
A007 4284	Fusing Entrance Slider	51-52
A007 4285	Slider Leaf Spring	51-51
A007 4286	Slider Knob Lever	51-53
A007 4287	Fusing Entrance	51-45
A007 4288	Fusing Entrance Cover	51-46
A007 4310	Fusing Exit Frame	49-24
A007 4322	Lower Exit Guide	49-30
A007 4323	Upper Exit Guide	49-3
A007 4325	Fusing Exit Guide Plate	49-2
A007 4331	Fusing Exit Sensor Feeler	49-29

Parts No.	Description	Page and Index No.
A007 4332	Fusing Exit Sensor Bracket	49-28
A007 4370	Fusing Unit Rail	11-18
A007 4376	Release Lever - Fusing Unit	11-19
A007 4381	Connector Bracket	11-8
A007 4382	Connector Shutter Plate	11-10
A007 4409	Inverter Unit	31-*
A007 4450	Guide Plate - Inverter Unit	33-1
A007 4455	Upper Guide - Inverter Unit	31-3
A007 4460	Guide Holder Pressure	31-13
A007 4461	Guide Plate - Open and Shut	31-12
A007 4462	Guide Plate Holder	31-47
A007 4464	Inverter Entrance Sensor Bracket	31-9
A007 4466	Paper Entrance Feeler	31-7
A007 4478	Guide Plate - Exit Inverter Unit	
	(FT5540,5570)	33-23
A007 4481	Exit Sensor Bracket	33-16
A007 4484	Exit Sensor Feeler	33-17
A007 4485	Exit Guide Plate - Upper	33-32
A007 4487	Exit Guide Plate - Upper	33-25
A007 4490	Paper Exit Feeler Bracket	33-27
A007 4492	Paper Exit Feeler	33-26
A007 4500	Jogger Unit	29-*
A007 4510	Front Paper Stopper Guide Unit	29-*
A007 4511	Rear Paper Stopper Guide Unit	29-*
A007 4520	Duplex Transport Unit	27-*
A007 4550	Fork Gate Unit	25-*
A007 4600	Side Frame - Inverter Unit	31-31
A007 4605	Drive Gear Bracket - Inverter Roller	31-34
A007 4616	Inverter Pressure Arm - Front	31-21
A007 4617	Inverter Pressure Arm - Rear	31-22
A007 4620	Upper Guide - Inverter Pressure	31-27
A007 4623	Lower Guide - Inverter Pressure	31-28
A007 4625	Inverter Guide Plate	31-18
A007 4630	Inverter Guide	31-17
A007 4655	Junction Gate Lever	31-42

Parts No.	Description	Page and Index No.
A007 4659	Junction Gate Solenoid	31-44
A007 4660	Junction Gate Solenoid Bracket	31-37
A007 4669	Inverter Pressure Solenoid	31-43
A007 4675	Pressure Solenoid Bracket	31-36
A007 4700	Front Frame - Duplex Feed	27-17
A007 4700	Front Frame - Duplex Feed	29-63
A007 4705	Rear Frame - Duplex Feed	27-56
A007 4705	Rear Frame - Duplex Unit	29-34
A007 4709	Push Lock	27-47
A007 4710	Push Lock Bracket	27-48
A007 4711	Fork Gate Knob	25-21
A007 4712	Jogger Stay	29-22
A007 4717	Jogger Motor Pulley	29-29
A007 4720	Jogger Motor Bracket	29-26
A007 4722	Home Sensor Bracket	29-31
A007 4725	Duplex Guide Plate	29-12
A007 4727	Jogger Fence Roller	29-19
A007 4730	Duplex Guide Plate - Middle	29-9
A007 4731	Anti-Vibration Pad - Large	29-14
A007 4732	Anti-Vibration Pad - Small	29-15
A007 4735	Front Jogger Fence	29-11
A007 4739	Jogger Fence Shoe - 2	29-2
A007 4740	Jogger Fence Shoe - 1	29-3
A007 4742	Jogger Fence - Rear	29-1
A007 4744	Guide Plate - Jogger Fence	29-17
A007 4746	Duplex Setter Mylar - Front	29-10
A007 4749	Duplex Setter Mylar - Rear	29-4
A007 4750	Low Shaft Guide - Transport	39-58
A007 4752	Duplex Settler Guide	29-8
A007 4779	Duplex Stopper Solenoid Lever	29-52
A007 4780	Duplex Stopper	29-36
A007 4782	Paper Stopper Pulley	29-59
A007 4783	Paper Stopper Pulley	29-46
A007 4785	Adjusting Plate - Duplex Solenoid	29-54
A007 4786	Wire Clamp	29-60

Parts No.	Description	Page and Index No.
A007 4792	Connector Bracket	27-36
A007 4800	Duplex Stay	27-7
A007 4805	Pick-up Arm	27-9
A007 4809	Duplex Feed Shaft	27-10
A007 4820	Feed Roller Arm	27-26
A007 4826	Duplex Feed Arm	27-44
A007 4828	Positioning Solenoid Lever	27-52
A007 4841	Sensor Harness Cover	27-2
A007 4843	Entrance Actuator Sensor Cover	27-3
A007 4845	Guide Pin	27-57
A007 4846	Toner Catch Pan	27-1
A007 4847	Seal - 5x20x20	27-35
A007 4849	Bottom Frame - Duplex Feed	29-55
A007 4851	Duplex Separation Arm	29-49
A007 4854	Separation Drive Shaft	29-48
A007 4865	Pick-up Solenoid Bracket	27-38
A007 4866	Solenoid Guide Roller	27-41
A007 4868	Pick-up Solenoid Cover	27-39
A007 4870	Solenoid Bracket	27-54
A007 4871	Duplex Solenoid Bracket	27-55
A007 4900	Transport Chamber	25-15
A007 4914	Idler Roller	25-11
A007 4915	Tension Lever	25-14
A007 4919	Fork Gate Cover	25-19
A007 4920	Front Side Frame - Fork Gate	25-26
A007 4921	Rear Side Frame - Fork Gate	25-35
A007 4927	Entrance Guide Plate - Fork Gate	25-5
A007 4930	Exit Guide Plate - Fork Gate	25-57
A007 4934	Fork Guide Roller	25-54
A007 4942	Guide Plate - Fork Gate	25-17
A007 4950	First Gate Arm	25-38
A007 4955	Second Gate Arm	25-39
A007 4960	Third Gate Arm	25-43
A007 4965	Junction Gate Shaft Arm	25-48
A007 4967	Gate - Solenoid - Left	25-37

Parts No.	Description	Page and Index No.
A007 4970	Fork Gate Lever	25-36
A007 4972	Fork Gate Actuator	25-45
A007 4973	Release Lever - Fork Gate	25-47
A007 4976	Fork Gate Solenoid Bracket	25-42
A007 4978	Micro Switch Lever	25-29
A007 4979	Fork Gate Solenoid	25-40
A007 4980	Fork Gate Setting Plate	25-50
A007 4986	Fork Gate Stopper	25-23
A007 4990	Duplex Tray	25-27
A007 5005	Left Stay - Transport Chamber	11-4
A007 5006	Right Stay - Transport Chamber	11-5
A007 5007	Fixed Holder - Toner Tray	39-19
A007 5013	Guide Plate - Exit Inverter Unit (FT5550)	33-23
A007 5105	CPU - Main Control Board	63-2
A007 5118	Ram Board	63-3
A007 5130	LCD Power Supply Board	53-57
A007 5182	Eprom - Optical Control	65-1
A007 5190	Paper Feed Control Board	61-15
A007 5190	Paper Feed Control Board	67-*
A007 5204	Toner End Sensor Harness	21-40
A007 5204	Toner End Sensor Harness	99-2
A007 5205	Gate Harness	59-14
A007 5205	Gate Harness	93-2
A007 5214	Transport Unit Harness	39-61
A007 5214	Transport Unit Harness	87-1
A007 5215	Lens Home Sensor Harness	17-11
A007 5215	Lens Home Sensor Harness	79-1
A007 5217	Main Control Harness	57-28
A007 5217	Main Control Harness	71-4
A007 5217	Main Control Harness	95-1
A007 5218	Safety Switch Harness	57-23
A007 5218	Safety Switch Harness	71-7
A007 5218	Safety Switch Harness	89-1
A007 5231	Transfer Safety Switch	33-10

Parts No.	Description	Page and Index No.
A007 5231	Transfer Safety Switch	39-53
A007 5253	Upper Paper Size Harness	59-2
A007 5254	Transport Sensor Harness	103-1
A007 5260	Inverter Guide Entrance Harness	101-2
A007 5260	Inverter Guide Entrance Harness	31-10
A007 5261	Home Sensor Harness	103-2
A007 5261	Home Sensor Harness	29-25
A007 5261	Harness - Home Sensor	33-31
A007 5262	Duplex Stopper Solenoid Harness	101-1
A007 5262	Duplex Stopper Solenoid Harness	29-56
A007 5263	Duplex Entrance Harness	27-8
A007 5263	Duplex Entrance Harness	99-1
A007 5264	Gate Solenoid Harness	25-62
A007 5264	Gate Solenoid Harness	97-2
A007 5265	LED Sensor Harness	101-3
A007 5265	LED Sensor Harness	33-19
A007 5366	Power Pack Harness	57-7
A007 5366	Power Pack Harness	85-1
A007 5370	Power Pack - Charge & Bias	57-4
A007 5405	Drum Heater	39-17
A007 5416	Ssr Board - AC Drive	57-3
A007 5458	AC Descent Harness (115V)	59-12
A007 5459	Harness - AC Descent (220/240V)	59-12
A007 5460	Grounding Wire	57-15
A007 5462	AC Drive Board Harness	59-5
A007 5462	AC Drive Board Harness	83-1
A007 5540	Fusing Unit Harness	51-22
A007 5540	Fusing Unit Harness	93-1
A007 5708	Mylar Seal - Slide Cover	53-56
A007 5728	Key Top – Timer	53-12
A007 5729	Key Top - Interrupt	53-13
A007 5730	Key Top - Start	53-14
A007 5731	Key Top - Guidance	53-15
A007 5735	Panel Sheet	53-53
A007 5736	Zoom Panel Sheet - LT	53-48

Parts No.	Description	Page and Index No.
A007 5739	Single Side Panel Sheet - LT	53-51
A007 5740	Duplex Panel Sheet - LT	53-52
A007 5741	ADF Sheet (LT)	53-46
A007 5742	Sorter Sheet (LT)	53-46
A007 5753	Zoom Panel Sheet - A3	53-48
A007 5756	Single Side Panel Sheet - A3	53-51
A007 5757	Duplex Panel Sheet - A3	53-52
A007 5758	ADF Sheet (A4)	53-46
A007 5759	Sorter Sheet (A4)	53-46
A007 5761	Operation Panel Sheet - A3	53-54
A007 5843	Capacitor Bracket	59-3
A007 5851	AC Drive Bracket	59-7
A007 5852	Noise Filter Bracket	61-4
A007 5853	Power Supply Cord Bracket	59-18
A007 5856	Bracket - Transformer	57-30
A007 5857	Transport Fan Bracket	57-14
A007 5858	Transport Fan Support Bracket	57-5
A007 5860	Solenoid Cover Bracket	59-11
A007 5861	Total Counter Bracket	57-19
A007 5862	Main Control Board Angle	11-1
A007 5863	Optics Board Bracket	57-24
A007 5864	Fan Angle	11-12
A007 5865	Power Pack Bracket	57-2
A007 5871	Safety Switch Bracket	57-22
A007 5872	Safety Switch Lever	57-20
A007 5874	Key Counter Bracket	9-43
A007 5876	Main Power Switch Bracket	57-21
A007 5878	AC Harness Angle	61-2
A007 5879	Counter Cover	57-18
A007 6094	Rear Upper Cover	9-1
A007 6121	Right Rear Cover	9-26
A007 6135	Left Front Cover	9-9
A007 6156	Lower Rear Cap	9-52
A007 6181	Tonner Collection Rear Cover	9-24
A007 6194	Inner Front Upper Cover Ass'y	53-10

Parts No.	Description	Page and Index No.
A007 6206	Left Inner Cover	9-15
A007 6216	Right Inner Cover	9-19
A007 6221	Cover - Transport Chamber	25-18
A007 6225	Front Inner Cover - Lower (FT5570,5540)	9-18
A007 6229	Front Inner Cover - Upper	9-16
A007 6348	Decal - Misfeed Large	111-23
A007 6348	Decal - Misfeed Large (FT5540,5570)	9-45
A007 6349	Decal - Misfeed Small	111-24
A007 6349	Decal - Misfeed Small (FT5540,55701	9-45
A007 6350	Decal - Misfeed	111-25
A007 6350	Decal - Misfeed (FT5550)	9-45
A007 6351	Decal - Adding Toner	111-21
A007 6351	Decal - Adding Toner	9-46
A007 6353	Decal - Reset	111-3
A007 6353	Decal - Reset	25-64
A007 6355	Decal - Sensor Checker	111-26
A007 6355	Decal - Sensor Checker	9-50
A007 6510	Rear Cover	9-25
A007 6529	Left Cover	9-5
A007 6536	Upper Front Cap	9-54
A007 6811	Decal - Drum Shaft Knob	111-4
A007 6811	Decal - Drum Shaft Knob	41-38
A007 8671	Decal Sheet - German	111-*
A007 8672	Decal Sheet - French	111-*
A007 8673	Decal Sheet - Italian	111-*
A007 8674	Decal Sheet - Spanish	111-*
A007 9002	PCC/PQC Corona Wire - (10pcs/set)	41-67
A007 9002	PCC/PQC Corona Wire (10pcs/set)	45-42
A007 9003	Tramsfer Corona Wire (10pcs/set)	39-34
A007 9004	Separation Corona Wire (10pcs/set)	39-33
A007 9005	Hot Roller Stripper (6pcs/set)	49-22
A007 9006	Cleaning Unit Seal	45-58
A007 9500	DG Gauge - 0.76 (2pcs/set)	105-16
A007 9501	Cleaning Brush Set	45-*
A007 9504	DG Gauge - 0.71/0.86	105-18

Parts No.	Description	Page and Index No.
A008 1307	Cap - Cover - Left - Sorter	9-6
A008 1354	Flat Head Screw - DIP Switch Cover	53-106
A008 2080	Pulley Support - Charge Corona	41-4
A008 2084	Cleaner Slider	41-12
A008 2085	Cleaner - Charge Corona	41-13
A008 2090	Support - Cleaner Sensor	39-45
A008 2090	Support - Cleaner Sensor	41-15
A008 2091	Support Pad - Cleaner Motor	39-30
A008 2091	Support Pad - Cleaner Motor	41-24
A008 2095	Slider Drive Wire	41-10
A008 3558	Beater Bar	45-54
A008 3611	Front Pick-off Guide Plate	45-69
A008 3612	Rear Pick-off Guide Plate	45-70
A008 3624	Seal - Cleaning Unit Casing	45-53
A008 4215	Front Lamp Terminal Ass'y	51-56
A008 4216	Lamp Terminal Spacer	51-58
A008 4217	Front Lamp Terminal Shaft	51-59
A008 4221	Rear Lamp Terminal Ass'y	51-57
A008 4341	Front Lever - Fusing Exit	49-20
A008 4344	Rear Lever - Fusing Exit	49-19
A008 5321	Motor - DC 5V/1.3W	39-26
A008 5321	Motor - DC 5V/1.3W	41-23
A008 5626	Key Top - Program	53-16
A008 5627	Key Top - Clear Mode	53-17
A008 5629	Key Top - Recall	53-18
A008 5630	Key Top - 0	53-19
A008 5631	Key Top - 1	53-20
A008 5632	Key Top - 2	53-21
A008 5633	Key Top - 3	53-22
A008 5634	Key Top - 4	53-23
A008 5635	Key Top - 5	53-24
A008 5636	Key Top - 6	53-25
A008 5637	Key Top - 7	53-26
A008 5638	Key Top - 8	53-27
A008 5639	Key Top - 9	53-28

Parts No.	Description	Page and Index No.
A008 5640	Key Top - C/S	53-29
A008 5641	Key Top - ADS	53-30
A008 5642	Key Top - Lighter	53-31
A008 5643	Key Top - Darker	53-32
A008 5644	Key Top - Select Cassette	53-33
A008 5645	Key Top - Full Size	53-34
A008 5646	Key Top - Enlarge	53-35
A008 5647	Key Top - Reduce	53-36
A008 5648	Key Top - Auto Cassette Selection	53-37
A008 5650	Key Top - Zoom UP	53-38
A008 5651	Key Top - Zoom Down	53-39
A008 5653	Key Top	53-40
A008 5658	Key Top - Point	53-41
A008 9001	Main Corona Wire (10pcs/set)	41-61
A008 9501	Platen Cover Sheet	19-5
A008 9502	Silicone Grease - G40M	105-17
A009 3689	Actuator - Pick-off Pawl	45-14
A012 3580	Bias Roller Blade	45-1
A019 1281	Left Cover - Option	9-53
A019 5165	IC - HN27256G-25	53-43
A019 5166	IC - HN27256G-25	53-44
A019 5167	IC - HN27256G-25	53-45
A409 5710	Fiber Connector - 2-174135-1	63-6
A492 5103	IC - HN27512G25 (RDH)	63-4
2801 0027	Power Supply Cord 250V,10A(220/240V)	59-13
5053 0223	Bushing - 8mm	21-6
5053 0223	Bushing - 8mm	23-11
5053 0223	Bushing - 8mm	39-20
5053 0223	Bushing - 8mm	51-16
5053 0447	Bushing - M6	21-61
5053 0447	Bushing - M6	23-31
5053 0447	Bushing - M6	25-1
5053 0447	Bushing - M6	29-32
5053 0447	Bushing - M6	31-30
5053 0447	Bushing - M6	39-8

Parts No.	Description	Page and Index No.
5053 0447	Bushing - M6	49-41
5054 0536	Magnet Catch Ass'y	35-14
5054 0536	Magnet Catch Ass'y	9-21
5203 1136	Registration Drive Spring	35-53
5203 1852	Bushing - 6x8x4mm	47-23
5203 1852	Bushing - 6x8x4mm	55-50
5203 4146	Thermistor Spring	51-37
5203 5801	Thermofuse Bracket	51-29
5205 1100	Sprocket - 24T	33-3
5205 1101	Sprocket - 12T	33-13
5205 1105	Chain Tightener	33-4
5205 1170	Spring - Fusing Release Lever	11-20
5205 1694	Adjusting Cam - Start Lever	15-23
5205 1694	Adjusting Cam - Start Lever	17-29
5205 1853	Seal - 14mm	11-23
5205 1853	Mylar Seal - Base	17-20
5205 2579	Spring - Guide	43-34
5205 2608	Gear - 23T	29-44
5205 2644	Paper End Actuator	23-21
5205 2667	Bracket - Paper Lift Motor	21-58
5205 2667	Bracket - Paper Lift Motor	23-46
5205 2670	Cassette Sensor Arm	23-45
5205 2678	Spring	21-54
5205 2678	Spring	23-42
5205 2680	Coupled Gear - 16T/53T	21-55
5205 2680	Coupled Gear - 16T/53T	23-44
5205 2681	Coupled Gear - 17T/50T	21-56
5205 2681	Coupled Gear - 17T/50T	23-43
5205 2691	Shaft - Paper Guide Plate	43-5
5205 2694	Spring - Paper Guide Plate	43-6
5205 2697	Bushing - Upper Registration Roller	43-9
5205 2734	Magnet - By-Pass Table	15-1
5205 2734	Magnet - By-Pass Table	9-39
5205 2777	Cushion - Lower Pick-up Guide	23-9
5205 2788	Cassette Sensor Arm - Upper	21-57

Parts No.	Description	Page and Index No.
5205 2865	Bushing - Paper Feed Roller	21-50
5205 2865	Bushing - Paper Feed Roller	23-39
5205 2866	Magnetic Clutch Collar	43-67
5205 2893	Cushion - Sector Gear	11-16
5205 2937	Bottom Plate (Large)	19-22
5205 2946	Front Side Fence (Large)	19-21
5205 2947	Rear Side Fence (Large)	19-19
5205 2953	Rear Fence	19-24
5205 2960	Actuator - A3	19-27
5205 2962	Actuator - A4R	19-27
5205 2964	Actuator - A4S	19-27
5205 2971	Actuator - 11″x17″	19-27
5205 2979	Actuator - 11″x8-1/2″	19-27
5205 2996	Actuator - 8-1/2″x11R″	19-27
5205 2997	Actuator - 8-1/2″xl4″	19-27
5205 3103	Bushing - 6mm	37-15
5205 3314	Gear - 20T	35-1
5205 3316	Upper Shaft	35-2
5205 3317	Lower Shaft	35-3
5205 3373	Plate Spring - Toner Supply Bracket	35-64
5205 3374	Positioning Lug - Toner Supply	35-15
5205 3421	Seal - Bottle Release Lever	35-18
5205 3565	Cleaning Blade	45-48
5205 3950	Cam	45-68
5205 3958	Pick-off Pawl Shaft	45-63
5205 3965	Spring	45-64
5205 3966	Set Screw	45-66
5205 3975	Cam	45-67
5205 3981	Collar	45-62
5205 4135	Fusing Shaft Collar	51-15
5205 4518	Upper Exit Roller	33-29
5205 4527	Spring - Exit	31-14
5205 4527	Spring - Exit	33-35
5205 5250	LED Sensor Type - S	27-6
5205 5250	LED Sensor Type - S	33-18

Parts No.	Description	Page and Index No.
5205 5251	LED Sensor Type - T	15-32
5205 5251	LED Sensor Type - T	17-57
5205 5251	LED Sensor Type - T	21-17
5205 5251	LED Sensor Type - T	29-30
5205 5251	LED Sensor Type - T	31-8
5205 5251	LED Sensor Type - T	33-30
5205 5251	LED Sensor Type - T	49-27
5205 5251	LED Sensor Type - T	61-7
5205 5253	Photointerrupter Pack	21-16
5205 5253	Photointerrupter Pack	23-20
5205 5321	Pick-up Solenoid	61-10
5205 5405	Transformer - 115V	57-31
5205 6491	Rear Side Fence (Small)	19-19
5205 6493	Front Side Fence (Small)	19-21
5205 6570	Bottom Plate - Small	19-22
5205 9101	Gap Gauge	105-14
5205 9111	Omega Clamp	105-13
5205 9510	Drum	41-41
5205 9601	Switching Board	105-12
5206 2557	Friction Pad - Duplex Guide Plate	29-13
5206 2603	Separation Driven Shaft	29-43
5206 2605	Separation Roller	29-38
5206 2607	Spring - Separation	29-41
5206 2609	Gear - 22T	29-45
5206 2626	Sensor Bracket - Duplex Paper End	27-4
5206 2650	Bushing - 8x12x7mm	27-11
5206 2651	Ball Bearing - 8x20x13mm	27-50
5206 2677	Bushing - 6x10x7mm	27-30
5206 2680	Entrance Actuator Roller	27-23
5206 2681	Axle Plate	27-24
5206 2684	Shoulder Screw - M3	27-31
5206 2685	Entrance Actuator Plate	27-25
5206 2686	Snap Ring	27-33
5206 2686	Snap Ring	29-62
5206 2687	Stud Screw - M3	27-32

Parts No.	Description	Page and Index No.
5206 2687	Stud Screw - M3	31-6
5206 2690	Duplex Paper Actuator	27-18
5206 2695	Cover - Duplex Paper Sensor	27-5
5206 2700	Spring - Pick-up Roller	29-16
5206 2712	Duplex Stopper Solenoid	29-53
5206 2808	Anti Static Brush - Duplex Transport	33-33
5206 2826	Spring - Gate Arm	25-31
5206 2833	Gate Solenoid Bracket	25-41
5206 2840	Fork Gate Holder	25-34
5206 2850	Bracket - Transfer Safety Switch	33-11
5206 2851	Right Fork Gate Guide	11-17
5206 2876	Spring - Wire	29-21
5206 2877	Wire Clamp Plate	29-18
5206 2925	Duplex Setter	29-5
5206 2926	Weight - Duplex Settler	29-6
5206 2929	Cushion - Duplex Settler	29-7
5206 4388	Spring - Inverter Guide	31-16
5206 4478	Spring - Driven Roller	25-22
5206 4478	Spring - Driven Roller	31-23
5206 9600	Sensor Checker	105-15
5207 4405	Spring - Fusing Unit	31-5
5208 4173	Spring - Stripper	25-49
5209 1694	Guide Roller - 1st Scanner	17-39
5209 1735	Pully	29-23
5209 4149	Fusing Unit Shaft	51-14
5209 4408	Gear - 16T	51-13
5209 4470	Upper Exit Roller	49-15
5209 5320	Oil End Sensor	49-40
5211 1374	Cap - Left Cover - L	9-7
5211 1375	Cap - Left Cover - S	9-8
5211 2285	Rear Flange	41-45
5211 2800	Rear Platen Cover	19-1
5214 4122	Stripper Spring	49-23
5215 1295	Front Cover Hinge - Right	9-12
5215 1297	Front Cover Hinge - Left	9-13

Parts No.	Description	Page and Index No.
5215 1702	Clip - Exposure Lamp	13-4
5215 1805	Lens Tension Pulley	17-59
5215 1811	Spring - Lens Drive Wire	17-60
5215 2119	T&S Corona Guide Plate	39-40
5215 2281	Mylar Seal - Guide PTL Cover	43-19
5215 2621	Snap Ring - M6	17-61
5215 2672	Bushing	43-13
5215 2687	Gear - 16T	9-41
5215 2688	Side Fence Gear	9-33
5215 2691	Brake	9-40
5215 2819	Mounting Bracket - Platen Cover	19-7
5215 2832	Platen Cover Hinge Ass'y	19-9
5215 2834	Arm Holder	19-16
5215 2838	Rubber Magnet	19-6
5215 2839	Balancer Spring	19-15
5215 2840	Pin - 4x115mm	19-10
5215 2842	Right Spring - Platen Cover	19-13
5215 2843	Left Spring - Platen Cover	19-14
5215 2844	Slide Supporter	19-17
5215 2845	Plate - Magnet	19-11
5215 2846	Platen Base	19-12
5215 2847	Base Holder	19-28
5215 3089	Developer Knob	37-40
5215 3101	Gear - 44T	37-39
5215 3162	Side Seal - Doctor Blade	37-6
5215 3167	Gear - 25T	37-16
5215 3180	Seal - Ring	37-22
5215 3931	Bushing - 8mm	39-13
5215 3942	Transport Guide Roller	39-6
5215 4093	Upper Frame	51-30
5215 4116	Oil Blade Holder	51-39
5215 4121	Spring - Oil Blade	51-42
5215 4196	Oil Sump Holder	51-33
5215 4208	Spring Plate - Oil Supply Pad	49-32
5215 4211	Decal - Thermofuse	111-12

Parts No.	Description	Page and Index No.
5215 4211	Decal - Thermofuse	49-44
5215 4211	Decal - Thermofuse	51-31
5215 5222	Transformer - 100V/25V	69-1
5215 5230	Photointerrupter - L Type	15-11
5215 5230	Photointerrupter - L Type	17-55
5215 5230	Photointerrupter - L Type	21-15
5215 5230	Photointerrupter - L Type	23-19
5215 5230	Photointerrupter - L-Type	55-42
5215 5250	Thermistor	51-36
5215 5304	Toner Overflow Sensor	47-11
5215 5380	Total Counter	57-17
5215 5390	Thermofuse	51-28
5216 1859	Stepped Screw - Slider Lock	13-41
5216 1859	Stepped Screw - Slider Lock	15-35
5216 5245	Photointerrupter - IL-G-3P-S3T2-E	39-47
5216 5245	Photointerrupter - IL-G-3P-S3T2-E	41-19
5219 3312	Seal - Agitator	41-28
5219 3326	Rubber Seal - Paddle Roller	37-33
5219 9060	Plastic Ring - 3x6x1mm (10pcs/set)	39-42
5304 1639	Bushing - 8mm	31-33
5304 1639	Bushing - 8mm	33-36
5350 2466	Spring - Pressure Arm	29-27
5403 2048	Bushing - 4mm	35-22
5403 2048	Bushing - 4mm	41-60
5403 2049	Spring Anchor	31-2
5403 2075	Stepped Screw	31-4
5403 2075	Stepped Screw	43-63
5408 5160	Short Connector	73-2
5409 1705	Clamp - Reflector	13-6
5413 1812	Spring - Drum Return Arm	47-6
5413 1875	Knob Screw	25-28
5413 1882	Stepped Screw	25-30
5413 3903	Pin - Transfer Guide Plate	45-10
5413 4835	Decal - Paper Level	111-11
5413 4835	Decal - Paper Level	19-20

Parts No.	Description	Page and Index No.
5415 4310	Valve - Oil Pump	49-5
5415 4457	Spring - Exit	49-31
5418 2116	Spacer - Guard	45-13
5419 1057	Rubber Foot	11-22
5420 1682	Supporter - Lamp Terminal	13-23
5420 9504	Thermo Meter - HLC	105-4
5420 9505	Probe - HLC-30	105-5
5420 9507	Digital Multimeter - BECKMAN RMS3030	105-6
5420 9508	Test Lead Kit	105-7
5420 9516	Test Chart - OS - A3 (10pcs/set)	105-10
5420 9550	Silicone Oil	105-8
5424 1472	Cover - Key Counter	9-36
5433 3785	Spring	47-17
5434 7916	High Voltage Decal	41-70
5434 7916	High Voltage Decal	57-33
5442 1110	Sprocket - 20T	33-6
5442 1702	Small Screw - M3	13-42
5442 1703	Wing - Center	13-2
5442 1704	Wing - Side	13-1
5442 1705	Exposure Lamp Terminal - Release	13-21
5442 1798	Hook - Scanner Drive Wire	15-14
5442 1924	Cushion - Exposure Glass	13-39
5442 2108	Spring - Corona Wire	41-66
5442 2108	Spring - Corona Wire	41-9
5442 2108	Spring - Corona Wire	45-23
5442 2110	Plug - Corona Unit	41-6
5442 2117	Shoulder Screw - Hinge	29-64
5442 2754	Spring - Registration Roller	43-12
5442 2769	Decal - A	111-8
5442 3154	Holder - Development Unit	41-36
5442 3233	Spring - Drive Wheel	35-56
5442 3233	Spring - Drive Wheel	55-46
5442 3593	Seal - Cleaning Balde Shaft	45-18
5442 3904	Spring - Pick-off Pawl Slide	45-61
5442 4152	Spring - Fusing Drive	51-25

Parts No.	Description	Page and Index No.
5442 4201	Rear Bracket - Lamp Terminal	51-21
5442 4444	Stud - Exit Ass'y Release Lever	49-18
5442 4463	Spring - Front Release Lever	49-21
5442 4464	Spring - Rear Release Lever	49-17
5442 4495	Slip Clutch	33-14
5442 6126	Decal - High Temperature (220/240V)	111-10
5442 6126	Decal - High Temperature (220/240V)	49-42
5442 7043	Small Decal - High Temperature (115V)	111-10
5442 7043	Small Decal - High Temperature (115V)	49-42
5442 9101	Setting Powder	105-1
5442 9102	Light Shielding Bag	105-2
5442 9103	Launa Oil	105-9
5442 9106	Drum Shoe	105-3
5443 2668	Bushing	21-13
5443 2668	Bushing	23-4
5443 2668	Bushing	25-60
5443 2668	Bushing	39-7
5443 2706	Plate - 12x220x1T	9-44
5446 1239	Plate Nut - Key Counter	9-42
5446 3619	Toner Receiving Pipe	45-7
5446 3648	Stepped Screw - M4	45-46
5446 3707	Bushing - 6x10x6mm	45-36
5446 3944	Spring - Charge Wire PCC	39-48
5446 4235	Spring - Hot Roller Stripper	25-46
5447 2676	Output Hub	21-32
5447 2676	Output Hub	23-27
5447 2676	Output Hub	29-40
5447 2678	Slip Clutch Cover	21-31
5447 2678	Slip Clutch Cover	23-26
5447 2678	Slip Clutch Cover	29-39
5447 2681	Snap Ring	21-11
5447 2681	Snap Ring	23-17
5447 2681	Snap Ring	27-14
5447 2681	Snap Ring	29-37
5447 2681	Snap Ring	45-34

Parts No.	Description	Page and Index No.
5447 2693	Separation Roller	21-30
5447 2693	Separation Roller	23-25
5447 2695	Input Hub	21-34
5447 2695	Input Hub	23-29
5447 2695	Input Hub	29-42
5447 2697	Cyrindrical Spring	21-33
5447 2697	Cyrindrical Spring	23-28
5447 2706	Gear - 15T	27-13
5447 2723	Pick-up Roller	21-9
5447 2723	Pick-up Roller	23-16
5447 2726	Paper Feed Roller	21-10
5447 2726	Paper Feed Roller	23-15
5447 2769	Stepped Screw	51-50
5447 2833	Pin - By-Pass Feed Table	29-57
5447 2927	Friction Pad - B	19-23
5447 2927	Friction Pad - B	9-35
5447 4241	Tube Clamp	49-4
5447 5690	Noise Filter - 220/240V	59-111
5447 9078	Heat Resisting Grease MT-78	105-11
5448 2803	Platen Cover Pad	19-4
5448 2824	Flex Hinge - Platen Cover	19-3
5840 1632	Stepped Screw	43-64
5840 1632	Stepped Screw	49-1
5887 4162	Screw - Driven Guide Plate	31-45
5887 4162	Screw - Driven Guide Plate	33-8
5887 4162	Screw - Driven Guide Plate	43-15
5894 2540	Arm Screw	37-59
5918 2307	Spring - Drive Motor Tension	31-38
5919 2201	Shoulder Screw - M4	49-47
5919 2303	Actuator Shaft	27-40
5919 5309	Stepper Motor - DC 4.8W	29-28

Parts No.	Description	Page and Index No.
0313 0040E	Philips Pan Head Screw - M3x4	31-101
0313 0040W	Philips Pan Head Screw - M3x4	25-101
0313 0040W	Philips Pan Head Screw - M3x4	27-101
0313 0040W	Philips Pan Head Screw - M3x4	31-102
0313 0050W	Philips Pan Head Screw - M3x5	21-101
0313 0050W	Philips Pan Head Screw - M3x5	23-101
0313 0050W	Philips Pan Head Screw - M3x5	29-101
0313 0050W	Philips Pan Head Screw - M3x5	37-101
0313 0050W	Philips Pan Head Screw - M3x5	61-101
0313 0060W	Philips Pan Head Screw - M3x6	13-101
0313 0060W	Philips Pan Head Screw - M3x6	17-101
0313 0060W	Philips Pan Head Screw - M3x6	25-102
0313 0060W	Philips Pan Head Screw - M3x6	31-103
0313 0060W	Philips Pan Head Screw - M3x6	39-101
0313 0060W	Philips Pan Head Screw - M3x6	43-101
0313 0060W	Philips Pan Head Screw - M3x6	45-101
0313 0060W	Philips Pan Head Screw - M3x6	47-101
0313 0060W	Philips Pan Head Screw - M3x6	51-101
0313 0060W	Philips Pan Head Screw - M3x6	57-101
0313 0080W	Philips Pan Head Screw - M3x8	13-102
0313 0100W	Philips Pan Head Screw - M3x10	59-101
0313 0120W	Philips Pan Head Screw - M3x12	13-103
0313 0120W	Philips Pan Head Screw - M3x12	39-102
0313 0140W	Philips Pan Head Screw - M3x14	33-101
0313 0280W	Philips Pan Head Screw - M3x28	21-102
0313 0300W	Philips Pan Head Screw - M3x30	57-102
0313 0350W	Philips Pan Head Screw - M3x35	41-101
0314 0050W	Philips Pan Head Screw - M4x5	39-103
0314 0050W	Philips Pan Head Screw - M4x5	41-102
0314 0060W	Philips Pan Head Screw - M4x6	21-103
0314 0060W	Philips Pan Head Screw - M4x6	25-117
0314 0060W	Philips Pan Head Screw - M4x6	27-102
0314 0060W	Philips Pan Head Screw - M4x6	29-102
0314 0060W	Philips Pan Head Screw - M4x6	31-104
0314 0060W	Philips Pan Head Screw - M4x6	33-102

Parts No.	Description	Page and Index No.
0314 0060W	Philips Pan Head Screw - M4x6	35-101
0314 0060W	Philips Pan Head Screw - M4x6	39-104
0314 0060W	Philips Pan Head Screw - M4x6	49-101
0314 0060W	Philips Pan Head Screw - M4x6	51-103
0314 0060W	Philips Pan Head Screw - M4x6	55-101
0314 0060W	Philips Pan Head Screw - M4x6	59-102
0314 0060W	Philips Pan Head Screw - M4x6	61-102
0314 0080M	Philips Pan Head Screw - M4x8	57-103
0314 0080W	Philips Pan Head Screw - M4x8	21-104
0314 0080W	Philips Pan Head Screw - M4x8	23-102
0314 0080W	Philips Pan Head Screw - M4x8	27-103
0314 0080W	Philips Pan Head Screw - M4x8	29-103
0314 0080W	Philips Pan Head Screw - M4x8	33-103
0314 0080W	Philips Pan Head Screw - M4x8	35-102
0314 0080W	Philips Pan Head Screw - M4x8	37-102
0314 0080W	Philips Pan Head Screw - M4x8	39-105
0314 0080W	Philips Pan Head Screw - M4x8	41-103
0314 0080W	Philips Pan Head Screw - M4x8	43-102
0314 0080W	Philips Pan Head Screw - M4x8	45-102
0314 0080W	Philips Pan Head Screw - M4x8	47-102
0314 0080W	Philips Pan Head Screw - M4x8	55-102
0314 0080W	Philips Pan Head Screw - M4x8	57-104
0314 0100W	Philips Pan Head Screw - M4x10	15-101
0314 0100W	Philips Pan Head Screw - M4x10	17-102
0314 0100W	Philips Pan Head Screw - M4x10	21-105
0314 0100W	Philips Pan Head Screw - M4x10	23-103
0314 0100W	Philips Pan Head Screw - M4x10	27-104
0314 0100W	Philips Pan Head Screw - M4x10	29-104
0314 0100W	Philips Pan Head Screw - M4x10	31-105
0314 0100W	Philips Pan Head Screw - M4x10	33-104
0314 0100W	Philips Pan Head Screw - M4x10	37-103
0314 0100W	Philips Pan Head Screw - M4x10	43-103
0314 0100W	Philips Pan Head Screw - M4x10	49-103
0314 0100W	Philips Pan Head Screw - M4x10	55-103
0314 0100W	Philips Pan Head Screw - M4x10	61-103

Parts No.	Description	Page and Index No.
0314 0120W	Philips Pan Head Screw - M4x12	45-103
0314 0140W	Philips Pan Head Screw - M4x14	13-104
0314 0200W	Philips Pan Head Screw - M4x20	37-104
0314 0200W	Philips Pan Head Screw - M4x20	39-106
0314 0450W	Philips Pan Head Screw - M4x45	57-105
0315 0080W	Philips Pan Head Screw - M5x8	57-119
0323 0060	Philips Sunken Head Screw - M3x6	27-116
0323 0060W	Philips Sunken Head Screw - M3x6	29-105
0323 0060W	Philips Sunken Head Screw - M3x6	9-101
0324 0080W	Philips Sunken Head Screw - M4x8	17-103
0324 0080W	Philips Sunken Head Screw - M4x8	21-106
0344 0060D	Philips Truss Head Screw - M4x6	35-103
0413 0062W	Tapping Screw - M3x6	49-102
0414 0082W	Tapping Screw With Flat Washer - M4x8	39-107
0414 0102W	Tapping Screw - M4x10	19-101
0433 0060W	Tapping Screw - M3x6	9-112
0434 0060W	Tapping Screw - M4x6	11-101
0434 0060W	Tapping Screw - M4x6	15-102
0434 0060W	Tapping Screw - M4x6	17-104
0434 0060W	Tapping Screw - M4x6	21-107
0434 0060W	Tapping Screw - M4x6	25-103
0434 0060W	Tapping Screw - M4x6	27-105
0434 0060W	Tapping Screw - M4x6	29-106
0434 0060W	Tapping Screw - M4x6	41-104
0434 0060W	Tapping Screw - M4x6	53-102
0434 0060W	Tapping Screw - M4x6	55-104
0434 0060W	Tapping Screw - M4x6	57-106
0434 0060W	Tapping Screw - M4x6	59-103
0434 0060W	Tapping Screw - M4x6	61-104
0434 0062W	Tapping Screw - M4x6	9-113
0434 0080W	Tapping Screw - M4x8	11-102
0434 0080W	Tapping Screw - M4x8	13-106
0434 0080W	Tapping Screw - M4x8	15-103
0434 0080W	Tapping Screw - M4x8	21-108
0434 0080W	Tapping Screw - M4x8	23-105

Parts No.	Description	Page and Index No.
0434 0080W	Tapping Screw - M4x8	25-104
0434 0080W	Tapping Screw - M4x8	27-106
0434 0080W	Tapping Screw - M4x8	29-107
0434 0080W	Tapping Screw - M4x8	31-106
0434 0080W	Tapping Screw - M4x8	33-105
0434 0080W	Tapping Screw - M4x8	39-108
0434 0080W	Tapping Screw - M4x8	41-105
0434 0080W	Tapping Screw - M4x8	43-104
0434 0080W	Tapping Screw - M4x8	45-104
0434 0080W	Tapping Screw - M4x8	47-103
0434 0080W	Tapping Screw - M4x8	49-104
0434 0080W	Tapping Screw - M4x8	51-104
0434 0080W	Tapping Screw - M4x8	53-103
0434 0080W	Tapping Screw - M4x8	55-105
0434 0080W	Tapping Screw - M4x8	57-107
0434 0080W	Tapping Screw - M4x8	59-104
0434 0080W	Tapping Screw - M4x8	61-105
0434 0080W	Tapping Screw - M4x8	9-102
0434 0100W	Tapping Screw - M4x10	17-105
0434 0100W	Tapping Screw - M4x10	37-105
0434 0100W	Tapping Screw - M4x10	51-114
0434 0100W	Tapping Screw - M4x10	61-106
0434 0140W	Tapping Screw - M4x14	51-105
0574 0040E	Hexagon Headless Set Screw - M4x4	29-108
0574 0050E	Hexagon Headless Set Screw - M4x5	21-109
0574 0050E	Hexagon Headless Set Screw - M4x5	23-106
0574 0050E	Hexagon Headless Set Screw - M4x5	25-105
0574 0050E	Hexagon Headless Set Screw - M4x5	43-105
0574 0050E	Hexagon Headless Set Screw - M4x5	55-106
0574 0060E	Hexagon Headless Set Screw - M4x6	15-104
0574 0060E	Hexagon Headless Set Screw - M4x6	25-106
0574 0060E	Hexagon Headless Set Screw - M4x6	27-107
0574 0060E	Hexagon Headless Set Screw - M4x6	29-109
0574 0060E	Hexagon Headless Set Screw - M4x6	31-107
0574 0060E	Hexagon Headless Set Screw - M4x6	41-106

Parts No.	Description	Page and Index No.
0575 0050E	Hexagon Headless Set Screw - M5x5	55-107
0575 0060E	Hexagon Headless Set Screw - M5x6	55-108
0594 0050E	Socket Bolt - M4x5	25-107
0594 0060W	Hexagon Bolt - M4x6	39-109
0622 0060E	Spring Pin - 2x6mm	35-104
0622 0100W	Parallel Pin - M2x10	21-110
0622 0100W	Parallel Pin - M2x10	23-107
0623 0100E	Spring Pin - 3x10mm	27-108
0623 0120E	Spring Pin - 3x12mm	29-110
0623 0180E	Spring Pin - 3x18mm	27-109
0633 0140G	Parallel Pin - M3x14	55-109
0700 0050W	Flat Washer - M5	25-108
0704 0080B	Toothed Washer - M8	59-105
0707 4050B	Bushing - 4x5	55-110
0712 0080B	Hexagon Nut - M8	59-106
0720 0025E	Retaining Ring - M2.5	27-110
0720 0025E	Retaining Ring - M2.5	31-108
0720 0025E	Retaining Ring - M2.5	37-106
0720 0025E	Retaining Ring - M2.5	45-105
0720 0030E	Retaining Ring - M3	11-103
0720 0030E	Retaining Ring - M3	21-111
0720 0030E	Retaining Ring - M3	23-108
0720 0030E	Retaining Ring - M3	25-109
0720 0030E	Retaining Ring - M3	29-111
0720 0030E	Retaining Ring - M3	31-109
0720 0030E	Retaining Ring - M3	33-106
0720 0030E	Retaining Ring - M3	35-105
0720 0030E	Retaining Ring - M3	49-105
0720 0030E	Retaining Ring - M3	51-106
0720 0030W	Retaining Ring - M3	45-106
0720 0040E	Retaining Ring - M4	11-104
0720 0040E	Retaining Ring - M4	17-106
0720 0040E	Retaining Ring - M4	21-112
0720 0040E	Retaining Ring - M4	23-109
0720 0040E	Retaining Ring - M4	25-110

Parts No.	Description	Page and Index No.
0720 0040E	Retaining Ring - M4	27-111
0720 0040E	Retaining Ring - M4	29-112
0720 0040E	Retaining Ring - M4	31-110
0720 0040E	Retaining Ring - M4	35-106
0720 0040E	Retaining Ring - M4	43-106
0720 0040E	Retaining Ring - M4	45-107
0720 0040E	Retaining Ring - M4	47-104
0720 0040E	Retaining Ring - M4	49-106
0720 0040E	Retaining Ring - M4	55-120
0720 0040W	Retaining Ring - M4	55-118
0720 0050E	Retaining Ring - M5	21-113
0720 0050E	Retaining Ring - M5	23-110
0720 0050E	Retaining Ring - M5	25-111
0720 0050E	Retaining Ring - M5	27-112
0720 0050E	Retaining Ring - M5	29-113
0720 0050E	Retaining Ring - M5	31-111
0720 0050E	Retaining Ring - M5	33-107
0720 0050E	Retaining Ring - M5	35-107
0720 0050E	Retaining Ring - M5	37-107
0720 0050E	Retaining Ring - M5	39-110
0720 0050E	Retaining Ring - M5	43-107
0720 0050E	Retaining Ring - M5	49-107
0720 0050E	Retaining Ring - M5	51-107
0720 0050E	Retaining Ring - M5	55-111
0720 0050E	Retaining Ring - M5	61-107
0720 0060E	Retaining Ring - M6	21-114
0720 0060E	Retaining Ring - M6	23-111
0720 0060E	Retaining Ring - M6	27-113
0720 0060E	Retaining Ring - M6	29-114
0720 0060E	Retaining Ring - M6	31-112
0720 0060E	Retaining Ring - M6	33-108
0720 0060E	Retaining Ring - M6	35-109
0720 0060E	Retaining Ring - M6	37-108
0720 0060E	Retaining Ring - M6	39-111
0720 0060E	Retaining Ring - M6	43-108

Parts No.	Description	Page and Index No.
0720 0060E	Retaining Ring - M6	51-108
0720 0060E	Retaining Ring - M6	55-112
0720 0070E	Retaining Ring - M7	21-115
0720 0070E	Retaining Ring - M7	23-112
0720 0070E	Retaining Ring - M7	35-108
0720 0070E	Retaining Ring - M7	51-109
0725 0100E	Retaining Ring C - M10	41-107
0725 0120E	Retaining Ring C - M12	41-108
0725 0200E	Retaining Ring C - M20	51-110
0727 0050E	Retaining Ring - M5	37-109
0734 0607D	Bushing - 6x7	45-108
0740 3008	Ball Bearing	51-111
0742 3906	Ball Bearing - 6mm	45-30
0801 1179	Philips Screw With Toothed Washer	11-105
0801 1185	Philips Truss Head Screw - M4x8	57-108
0801 1185	Philips Truss Head Screw - M4x8	59-107
0801 1185	Philips Truss Head Screw - M4x8	61-108
0802 5085	Tapping Screw - M4x8	35-110
0802 5085	Tapping Screw - M4x8	9-103
0802 5086	Tapping Screw - M4x10	35-111
0802 5094	Tapping Truss Head Screw - M4x8	25-112
0802 5094	Tapping Truss Head Screw - M4x8	53-104
0802 5094	Tapping Truss Head Screw - M4x8	9-104
0802 5094F	Truss Tapping Screw - M4T3x8	9-105
0802 5131	Truss Head Screw - M4x8	19-102
0803 0017	Knob Screw - M4x6.5	9-106
0805 0083	Retaining Ring - M4	19-103
0805 3042	Ball Bearing - 6x10x3mm	21-116
0805 3042	Ball Bearing - 6x10x3mm	23-113
0805 3101	Ball Bearing - 6x13x5mm	27-114
0805 3145	Ball Bearing - 6x12x4mm	55-113
0805 3291	Ball Bearing - 8x16x5mm	33-109
0805 3291	Ball Bearing - 8x16x5mm	55-114
0805 3377	Ball Bearing - 25x42x9mm	51-112
0805 3399	Bushing - 6x10x8mm	49-108

Parts No.	Description	Page and Index No.
0805 3410	Ball Bearing - 15x28x7mm	37-110
0807 3014	Nylon Washer	29-115
0807 4041	Collar - 6.5x20mm	25-113
0807 4043	Spacer	27-115
0807 4123	Spacer - 6x13x1mm	25-114
0951 3005W	Philips Screw With Flat Washer - M3x5	51-113
0951 3015B	Philips Screw With Flat Washer - M3x15	51-102
0951 4005W	Philips Screw With Flat Washer - M4x5	17-107
0951 4006W	Philips Screw With Flat Washer - M4x6	17-108
0951 4006W	Philips Screw With Flat Washer - M4x6	41-111
0951 4006W	Philips Screw With Flat Washer - M4x6	49-109
0951 4006W	Philips Screw With Flat Washer - M4x6	55-115
0951 4008	Philips Screw With Flat Washer - M4x8	9-110
0951 4008W	Philips Screw With Flat Washer - M4x8	17-109
0951 4008W	Philips Screw With Flat Washer - M4x8	21-117
0951 4008W	Philips Screw With Flat Washer - M4x8	35-112
0951 4008W	Philips Screw With Flat Washer - M4x8	39-112
0951 4008W	Philips Screw With Flat Washer - M4x8	41-109
0951 4008W	Philips Screw With Flat Washer - M4x8	41-112
0951 4010W	Philips Screw With Flat Washer - M4x10	15-105
0951 4010W	Philips Screw With Flat Washer - M4x10	17-110
0951 4012W	Philips Screw With Flat Washer - M4x12	41-110
0960 4005W	Philips Flange Screw - M4x5	9-107
0960 4008W	Philips Flange Screw - M4x8	55-116
0964 4008W	Tapping Screw With Flat Washer - M4x8	57-109
0964 4008W	Tapping Screw With Flat Washer - M4x8	59-108
0964 4008W	Tapping Screw With Flat Washer - M4x8	61-109
0965 3006W	Tapping Screw With Flat Washer - M3x6	25-115
0965 3006W	Tapping Screw With Flat Washer - M3x6	31-113
0965 3006W	Tapping Screw With Flat Washer - M3x6	47-105
0965 3008W	Tapping Screw With Flat Washer - M3x8	61-110
0965 3008W	Tapping Screw With Flat Washer - M3x8	9-108
0965 4008W	Tapping Screw With Flat Washer - M4x8	25-116
0965 4008W	Tapping Screw With Flat Washer - M4x8	31-114
0965 4008W	Tapping Screw With Flat Washer - M4x8	39-113

Parts No.	Description	Page and Index No.
0965 4008W	Tapping Screw With Flat Washer - M4x8	41-113
0965 4008W	Tapping Screw With Flat Washer - M4x8	53-105
0965 4008W	Tapping Screw With Flat Washer - M4x8	9-111
0965 4010W	Tapping Screw With Flat Washer - M4x10	19-104
0965 4012W	Tapping Screw With Flat Washer - M4x12	19-105
0971 3006A	Philips Polycarbonate Screw - M3x6	39-114
0971 3006A	Philips Polycarbonate Screw - M3x6	41-114
1100 0086	Solid Strand	93-101
1100 0844	Socket - Mate-N-Lock	73-102
1100 0863	Stud Pin	83-101
1100 0864	Housing - AWG14-20	75-101
1100 0864	Housing - AWG14-20	83-102
1100 0916	Pin - Mate-N-Lock	75-102
1100 1043	Pin - Mate-N-Lock	75-128
1100 1089	Socket - Mate-N-Lock	81-101
1100 1089	Socket - Mate-N-Lock	91-109
1100 1091	EI Connector - 3P	67-101
1100 1094	Connector - 9P	63-101
1100 1094	Connector - 9P	65-101
1100 1095	Connector - 10P	67-102
1100 1096	Connector - 12P	67-103
1100 1153	Terminal	73-104
1100 1159	Socket - Mate-N-Lock	101-101
1100 1159	Socket - Mate-N-Lock	73-106
1100 1159	Socket - Mate-N-Lock	97-105
1100 1170	Positive Lock Receptacle	75-103
1100 1171	Fastening Receptacle	75-104
1100 1172	Fastening Receptacle	73-107
1100 1172	Fastening Receptacle	75-105
1100 1172	Fastening Receptacle	89-101
1100 1200	Terminal	73-108
1100 1238	Pin - Mate-N-Lock	73-103
1100 1238	Pin - Mate-N-Lock	83-103
1100 1238	Pin - Mate-N-Lock	89-102
1100 1239	Pin - Mate-N-Lock	73-109
1100 1239	Pin - Mate-N-Lock	83-104
1100 1240	Socket - Mate-N-Lock	73-110
1100 1241	Socket - Mate-N-Lock	73-111
1100 1241	Socket - Mate-N-Lock	75-106
1100 1241	Socket - Mate-N-Lock	77-101
1100 1247	Terminal	73-112
1100 1247	Terminal	75-107
1100 1247	Terminal	77-102
1100 1247	Terminal	83-105
1100 1249	Receptacle Terminal	101-105
1100 1249	Receptacle Terminal	101-109
1100 1249	Receptacle Terminal	103-101
1100 1249	Receptacle Terminal	103-103
1100 1249	Receptacle Terminal	79-101
1100 1249	Receptacle Terminal	81-102
1100 1249	Receptacle Terminal	91-101
1100 1249	Receptacle Terminal	93-102
1100 1253	Pin - Mate-N-Lock	101-102
1100 1253	Pin - Mate-N-Lock	101-106
1100 1253	Pin - Mate-N-Lock	103-104
1100 1253	Pin - Mate-N-Lock	75-108
1100 1253	Pin - Mate-N-Lock	79-102
1100 1253	Pin - Mate-N-Lock	85-102
1100 1253	Pin - Mate-N-Lock	87-101
1100 1253	Pin - Mate-N-Lock	93-110
1100 1253	Pin - Mate-N-Lock	97-106
1100 1253	Pin - Mate-N-Lock	99-101
1100 1253	Pin - Mate-N-Lock	99-104
1100 1259	Socket - Mate-N-Lock	73-113
1100 1259	Socket - Mate-N-Lock	79-103
1100 1259	Socket - Mate-N-Lock	95-101
1100 1259	Socket - Mate-N-Lock	99-105
1100 1264	Wire Terminal	73-114
1100 1264	Wire Terminal	75-109
1100 1264	Wire Terminal	85-101

Parts No.	Description	Page and Index No.
1100 1264	Wire Terminal	87-102
1100 1300	Fastening Receptacle	73-115
1100 1301	Fastening Receptacle	73-116
1100 1327	Contact	73-117
1100 1327	Contact	81-103
1100 1327	Contact	83-106
1100 1327	Contact	85-103
1100 1327	Contact	93-103
1100 1327	Contact	97-101
1100 1328	Contact	87-103
1100 1328	Contact	91-102
1100 1328	Contact	95-103
1100 1329	Socket Contact	97-102
1100 1339	Pin Contact	93-104
1100 1341	Pin Contact	75-110
1100 1343	Pin Contact	93-105
1100 1345	Pin Contact	75-111
1100 1348	Pin Contact	73-118
1101 0328	Connector Pin Contact	63-102
1101 0328	Connector Pin Contact	65-102
1102 0185	Connector - 4P	73-119
1102 0782	Connector - 4P	75-112
1102 0946	Housing - 3P	75-113
1102 0946	Housing - 3P	83-107
1102 0958	Connector - 2P	65-103
1102 0977	Connector - Heater	83-108
1102 0983	Connector - 2P	75-114
1102 0984	Connector - 2P	75-127
1102 1089	Connector - 3P	73-120
1102 1089	Connector - 3P	99-106
1102 1090	Connector - 4P	73-130
1102 1091	Connector - 6P	73-121
1102 1091	Connector - 6P	79-104
1102 1092	Connector - 9P	95-102
1102 1093	Connector - 10P	73-122

Parts No.	Description	Page and Index No.
1102 1093	Connector - 10P	91-103
1102 1094	Connector - 12P	81-105
1102 1172	EI Connector - 4P	65-104
1102 1178	Connector - 5P	73-123
1102 1253	Connector - 15P	101-110
1102 1396	Connector - 2P	101-103
1102 1396	Connector - 2P	73-126
1102 1396	Connector - 2P	97-107
1102 1397	Connector - 2P	73-127
1102 1398	Connector - 2P	97-108
1102 1401	Receptacle Housing - 1P	75-115
1102 1402	Receptacle Housing - 1P	75-116
1102 1402	Receptacle Housing - 1P	89-103
1102 1403	Receptacle Housing	75-117
1102 1403	Receptacle Housing	89-104
1102 1404	Receptacle Housing	73-128
1102 1404	Receptacle Housing	75-118
1102 1404	Receptacle Housing	89-105
1102 1412	Receptacle Housing - 2P	73-129
1102 1418	Connector - 8P	73-131
1102 1419	Connector - 2P	73-132
1102 1420	Connector - 2P	73-133
1102 1422	Housing - 6P Black	73-134
1102 1423	Housing - 3P Black	73-135
1102 1509	Connector - 4P	73-136
1102 1510	Connector - 6P	83-109
1102 1510	Connector - 6P	89-106
1102 1512	Connector - 12P	83-110
1102 1515	Connector - 2P	73-137
1102 1515	Connector - 2P	75-119
1102 1515	Connector - 2P	77-103
1102 1516	Connector - 3P	75-120
1102 1517	Connector - 4P	73-101
1102 1518	Connector - 6P	73-138
1102 1518	Connector - 6P	75-121

Parts No.	Description	Page and Index No.
1102 1520	Connector - 12P	73-139
1102 1532	Connector - 2P	75-122
1102 1544	Connector - 3P	75-123
1102 1567	Connector - 2P	63-103
1102 1620	Connector - 3P	101-111
1102 1620	Connector - 3P	103-105
1102 1620	Connector - 3P	81-106
1102 1620	Connector - 3P	93-106
1102 1623	Receptacle Housing - 7P	81-107
1102 1660	Receptacle Housing - 3P	101-107
1102 1714	Connector - 6P	73-140
1102 1753	Connector - 5P	87-104
1102 1775	Receptacle Housing - 8P	73-141
1102 1777	Connector - 8P	85-104
1102 1778	Connector - 4P	75-124
1102 1786	Connector - 3P	101-108
1102 1786	Connector - 3P	103-102
1102 1786	Connector - 3P	79-105
1102 1786	Connector - 3P	81-108
1102 1786	Connector - 3P	91-104
1102 1787	Connector - 3P	81-109
1102 1790	Connector - 6P	79-106
1102 1790	Connector - 6P	99-102
1102 1814	Connector - 3P	101-112
1102 1814	Connector - 3P	103-106
1102 1814	Connector - 3P	99-107
1102 1815	Connector - 3P	75-125
1102 1854	Connector - 10P	81-111
1102 1859	Connector - 4P	93-111
1102 1860	Connector - 2P	101-104
1102 1861	Connector - 4P	97-109
1102 1867	Connector - 6P	79-107
1102 1878	Connector - 3P	73-142
1102 1889	Connector - 6P	83-111
1102 1910	Connector - 2P	73-143

Parts No.	Description	Page and Index No.
1102 1910	Connector - 2P	83-112
1102 1910	Connector - 2P	93-107
1102 1911	Connector - 3P	73-144
1102 1911	Connector - 3P	81-112
1102 1911	Connector - 3P	85-105
1102 1911	Connector - 3P	97-103
1102 1912	Connector - 4P	73-145
1102 1914	Connector - 6P	73-146
1102 1916	Connector - 8P	73-147
1102 1917	Connector - 9P	83-113
1102 1918	Connector - 10P	73-148
1102 1919	Connector - 11P	73-149
1102 1922	Connector - 14P	73-150
1102 1924	Connector - 2P	73-151
1102 1924	Connector - 2P	93-108
1102 1925	Connector - 3P	85-106
1102 1930	Connector - 6P	73-152
1102 1932	Connector - 10P	85-107
1102 1938	Connector - 2P	73-153
1102 1940	Connector - 4P	85-108
1102 1952	Connector - 2P	87-105
1102 1952	Connector - 2P	95-104
1102 1953	Connector - 3P	87-106
1102 1953	Connector - 3P	95-105
1102 1964	Connector - 2P	91-105
1102 1967	Connector - 6P	95-106
1102 1976	Connector - 2P	91-106
1102 1983	Socket Housing - 3P	97-104
1102 2098	Connector - 12P	93-109
1102 2099	Connector - 12P	75-126
1102 2113	Connector - 2P	69-101
1102 2549	Connector - 2P	77-104
1102 2986	Receptacle - 14P	63-104
1102 3168	Receptacle - 32P	73-154
1102 3169	Connector - 32P	67-104

Parts No.	Description	Page and Index No.
1102 3173	Contact	73-155
1103 0635	Connector - 10P	63-105
1103 0657	Connector - 50P	73-156
1103 0662	Connector - 20P	73-157
1103 0701	Connector - 6P	69-102
1103 0725	Connector - 3P	65-105
1103 0774	Connector - 3P	67-105
1103 0777	Connector - 30	67-106
1103 1134	Connector - 12P	65-106
1103 1336	Connector - 3P	99-103
1103 1337	Connector - 4P	77-105
1103 1337	Connector - 4P	91-107
1103 1344	Connector - 12P	77-106
1103 1390	Pin Header - 6P	63-106
1103 1400	Connector - 2P	67-107
1103 1401	Connector - 7P	67-108
1103 1402	Connector - 10P	67-109
1103 1403	Connector - 12P	65-107
1103 1429	Connector - 3P	77-107
1103 1429	Connector - 3P	91-108
1103 1430	Connector - 4P	77-108
1103 1431	Connector - 8P	77-109
1103 1531	Connector - 4P	67-110
1103 1682	Connector - 2P	67-111
1103 1694	Connector - 14P	67-112
1103 1696	Connector - 2P	67-113
1103 1724	Connector - 2P	67-114
1103 1724	Connector - 2P	69-103
1103 1725	Connector - 3P	63-107
1103 1725	Connector - 3P	67-115
1103 1731	Connector - 9P	69-104
1103 1732	Connector - 10P	63-108
1103 1733	Connector - 11P	63-109
1103 1736	Connector - 14P	63-110
1103 1752	Connector - 2P	67-116

Parts No.	Description	Page and Index No.
1103 3020	Connector - 20P	63-111
1103 3025	Connector - 50P	63-112
1104 0224	Relay Bracket	61-111
1104 0271	LSI Socket - 28P	63-113
1104 0271	LSI Socket - 28P	65-108
1105 0005	Nylon Clip - 3N	17-111
1105 0005	Nylon Clip - 3N	39-115
1105 0005	Nylon Clip - 3N	59-109
1105 0005	Nylon Clip - 3N	61-112
1105 0008	Nylon Clip - 2N	57-110
1105 0099	Wire Saddle	57-111
1105 0159	P.C.B. Stud	57-112
1105 0196	Harness Clamp	55-119
1105 0196	Harness Clamp	59-110
1105 0196	Harness Clamp	61-113
1105 0197	Wire Saddle	57-113
1105 0197	Wire Saddle	61-114
1105 0197	Wire Saddle	9-109
1105 0199	Clamp	57-114
1105 0200	Clamp	57-118
1106 0359	Nylon Stud	59-116
1106 0366	Cord Clamp - 115V	59-114
1106 0395	Locking Support	57-115
1106 0430	Bushing - 13mm	39-116
1106 0442	Cord Clamp Lisr - 40	59-114
1106 0458	Bushing - 9.9mm	15-106
1107 0354	Fuse - 3.15A/125V	59-117
1107 0363	Circuit Breaker - 115V	61-115
1107 0371	Fuse - 5A/125V	59-118
1107 0550	Circuit Breaker 10A	61-115
1150 0003	Power Supply Cord (115V)	59-13
1204 1280	Push Switch	57-116
1204 1482	DIP Switch	63-114
1204 1520	Switch	57-117
1208 1029	Power Relay	61-116

Parts No.	Description	Page and Index No.
1208 1034	Relay - DC24V	69-105
1400 0423	Transistor - 2SA1121C	65-109
1400 0424	Transistor - 2SC2618C	65-110
1401 0298	Transistor - 2SC2712Y	63-115
1401 0391	Transistor Array - PU4310 60V3A	63-116
1401 0395	Transistor Array - 2SC2883	63-117
1401 0427	Rectifier - S4VB40	65-111
1401 0428	Transistor - 2SD1773	65-112
1401 0825	Diode - 1SS176	67-117
1401 0826	Diode - 1SS181	63-118
1401 0832	Diode - DSA1A1	63-119
1401 0864	Transistor - 2SD1006	63-120
1402 0110	Diode - V06C	65-113
1402 0360	Zener Diode - HZ20	69-106
1402 0423	Diode - S5500G	67-118
1402 0467	Diode - S5566G	69-107
1402 0476	Diode - 1SS184	63-121
1402 0687	Diode - 12V 1W	65-114
1402 0688	Diode	63-122
1402 0688	Diode	65-115
1402 0690	Diode - RD39P	63-123
1402 0734	Diode - RD6.2	63-124
1405 0127	IC - TLP541G	69-108
1405 0130	IC - TG8D	69-109
1405 0148	Triac - 600V-16A - Bcr	69-110
1405 0151	IC - TLP545J	69-111
1405 0152	Rectifier - 1J4B42	69-112
1405 0156	IC - BCR8DM	69-113
1405 0157	IC - M51951M	69-114
1407 1305	IC - SN7406NS	65-116
1407 1306	IC - SN74LS00	63-125
1407 1306	IC - SN74LS00	65-117
1407 1309	IC - HD74LS04FD	63-126
1407 1309	IC - HD74LS04FD	65-118
1407 1310	Ttl - HD74LS08FP	63-127

Parts No.	Description	Page and Index No.
1407 1311	IC - HD74LS32FP	63-128
1407 1314	IC - HD74LS74AFP	65-119
1407 1316	Ttl - HD74LS107FP	63-129
1407 1317	IC - HD74LS138FP	63-130
1407 1740	IC - SN74LS27NS	65-120
1407 1813	IC - SN74LS11NS	63-131
1407 1882	IC - SN74LS373NS	63-132
1407 1882	IC - SN74LS373NS	65-121
1407 1883	IC - TC4050BF	65-122
1407 2054	IC - TD62308F	63-133
1407 2054	IC - TD62308F	65-123
1407 2055	IC - TD62304F	63-134
1407 2073	IC - UPD78C10GF	63-135
1407 2073	IC - UPD78C10GF	65-124
1407 2187	IC - SN74LS07NS	63-136
1407 2217	IC - PD71054GB	65-125
1407 2218	IC - SN74LS06NS	63-137
1407 2221	IC - SN75157P	63-138
1407 2222	IC - SN75158P	63-139
1407 2223	IC - TMP82C51AF-2	63-140
1407 2228	LSI TMP82C55AF-2	63-141
1407 2229	IC - NJM555	63-142
1407 2230	IC - TD6F62303F	63-143
1407 2231	IC - TD62308AF	63-144
1407 2232	IC - 74HC157F	63-145
1407 2823	IC - MDP71051GB-3B4	63-146
1407 3359	IC - RF5C60	63-147
1407 3360	IC - MPD4711	63-148
1408 0200	IC - TA75339P	67-119
1408 0233	IC - HA17903PS	69-115
1408 0456	IC - AN6914S	63-149
1408 0537	IC - TL7705CPS	63-150
1408 0561	IC - TL092	63-151
1503 0070	Ceramic Oscillator - 10MHz	63-152
1503 0070	Ceramic Oscillator - 10MHz	65-126

Parts No.	Description	Page and Index No.
1503 0180	Ceramic Oscillator - 8MHz	65-127
1600 1112	Resistor - 100OHM 2W	69-116
1601 2844	Resistor - 1.8KOHM 1/2W	69-117
1601 7167	Resistor Array - 4.7KOHM 1/8W	67-120
1601 7468	Fuse Resistor - 100OHM 1/2W	59-115
1601 7468	Fuse Resistor - 100OHM 1/2W	69-118
1601 8138	Variable Resistor - 30KOHM 0.75W	63-153
1601 8185	Variable Resistor - 200OHM 0.5W	69-119
1602 0923	Noise Filter - 115V	59-111
1602 0975	Noise Filter - 0.1MF,120OHM	69-120
1602 0976	Noise Filter - 120OHM +0.1MF	69-121
1604 1353	Capacitor - 47µF 10V	65-128
1604 1375	Capacitor - 0.22µF 50V	63-154
1604 1378	Capacitor - 1MF 50V	63-155
1604 1381	Capacitor - 4.7µF 50V	63-156
1604 1382	Capacitor - 10µF 50V	63-157
1604 1382	Capacitor - 10µF 50V	67-121
1604 1383	Capacitor - 22µF 50V	63-158
1604 1385	Electrolytic CAP. : 47µF ±20% 50V	63-159
1604 1386	Capacitor - 100MF 50V	63-160
1604 1386	Capacitor - 100MF 50V	65-129
1605 0166	Capacitor - 27PF 50V	63-161
1605 0280	Capacitor - 0.01MF 50V	69-122
1605 0305	Capacitor - 3300PF	65-130
1606 0689	Capacitor - 0.01MF +80%-20% 50V	69-123
1606 0998	Capacitor - 0.01µF 50V	67-122
1606 1451	Capacitor - 0.1µF 50V	63-162
1606 1452	Capacitor - 0.01µF 50V	65-131
1606 1453	Capacitor - 0.1µF 25V	65-132
1606 1454	Capacitor - 0.01MF 50V	63-163
1606 1455	Capacitor - 470PF 25V	63-164
1606 1494	Capacitor - 0.047MF 250V	69-124
1606 1496	Capacitor - 0.1µF 400V	69-125
1606 1497	Capacitor - 0.047µF 125V	69-126
1606 1520	Capacitor - 27PF 50V	65-133

Parts No.	Description	Page and Index No.
1606 1542	Capacitor - 0.22MF AC250V	69-127
1606 1587	Capacitor - 8µF 220V	59-112
1606 1626	Capacitor - 14MF 220V	59-113
1606 1627	Capacitor - 14MF 250V	55-117
1607 0218	Inductor - 6660MF	69-128
1610 0035	Resistor - 100OHM 1/8W ±5%	63-165
1610 0045	Resistor - 270OHM 1/8W ±5%	63-166
1610 0047	Resistor - 330OHM 1/8W ±5%	63-167
1610 0048	Resistor - 390OHM 1/8W ±5%	63-168
1610 0049	Resistor - 470OHM 1/8W ±5%	63-169
1610 0053	Resistor - 1KOHM 1/8W ±5%	63-170
1610 0053	Resistor - 1KOHM 1/8W ±5%	65-134
1610 0055	Resistor - 1.2KOHM 1/8W ±5%	65-135
1610 0057	Resistor - 1.5KOHM 1/8W ±5%	63-171
1610 0061	Resistor - 2.2KOHM 1/8W ±5%	65-136
1610 0064	Resistor - 3KOHM 1/8W ±5%	63-172
1610 0065	Resistor - 3.3KOHM 1/8W ±5%	65-137
1610 0067	Resistor - 4.7KOHM 1/8W ±5%	63-173
1610 0067	Resistor - 4.7KOHM 1/8W ±5%	65-138
1610 0068	Resistor - 5.6KOHM 1/8W ±5%	63-174
1610 0069	Resistor - 6.8KOHM 1/8W ±5%	63-175
1610 0071	Resistor - 10KOHM ±5%	63-176
1610 0071	Resistor - 10KOHM ±5%	65-139
1610 0073	Resistor - 12KOHM 1/8W ±5%	63-177
1610 0075	Resistor - 15KOHM 1/8W ±5%	63-178
1610 0077	Resistor - 18KOHM 1/8W ±5%	63-179
1610 0079	Resistor - 22KOHM 1/8W ±5%	63-180
1610 0081	Resistor - 27KOHM 1/8W ±5%	65-140
1610 0083	Resistor - 33KOHM 1/8W - 5%	63-181
1610 0085	Resistor - 47KOHM 1/8W ±5%	63-182
1610 0086	Resistor - 56KOHM 1/8W ±5%	63-183
1610 0089	Resistor - 100KOHM 1/8W ±5%	63-184
1610 0091	Resistor - 120KOHM	63-185
1610 0099	Resistor - 270KOHM 1/8W ±5%	63-186
1610 0107	Resistor - 1MOHM 1/8W ±5%	63-187

Parts No.	Description	Page and Index No.
1610 0107	Resistor - 1MOHM 1/8W ±5%	65-141
1610 0108	Resistor - 1.2MOHM 1/8W ±5%	63-188
1610 0110	Resistor - 1.8KOHM 1/8W ±5%	63-189
1610 0113	Resistor - 3.3MOHM 1/8W ±5%	63-190
1611 4103	Resistor - 10KOHM 1/4W ±5%	69-129
1611 4151	Resistor - 150OHM 1/4W ±5%	63-191
1611 4153	Resistor - 15KOHM 1/4T ±5%	67-123
1611 4181	Resistor - 180OHM 1/4W ±5%	63-192
1611 4223	Resistor - 22KOHM 1/4W ±5%	69-130
1611 4472	Resistor - 4.7KOHM 1/4T ±5%	67-124
1611 4562	Resistor - 5.6KOHM 1/4W ±5%	69-131
1611 4682	Resistor - 6.8KOHM 1/4T ±5%	67-125
1611 4820	Resistor - 82OHM 1/4W ±5%	63-193
1611 4820	Resistor - 82OHM 1/4W ±5%	69-132
1611 6122	Resistor - 1.2KOHM ±5% 1/2W	65-142
1611 6222	Resistor - 2.2KOHM 1/2W ±5%	69-133
1622 1003	Resistor - 100KOHM 1/4W ±1%	63-194
1622 1202	Resistor - 2KOHM 1/4W ±1%	63-195
1622 1203	Resistor - 120KOHM 1/4W ±1%	69-134
1622 1800	Resistor - 185OHM 1/4W ±1%	69-135
1622 4703	Resistor - 470OHM 1/4W ±1%	69-136
1622 5231	Resistor - 5.23KOHM 1/4W ±1%	63-196
1622 8202	Resistor - 82KOHM 1/4W ±1%	69-137
1622 8661	Resistor - 8.6KOHM 1/4W ±1%	63-197

Parts No.	Description	Page and Index No.

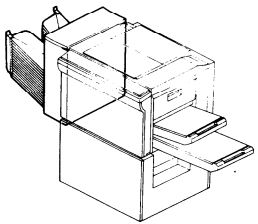
CS2080

(A411)

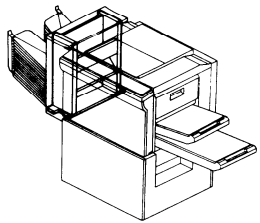
CS2080

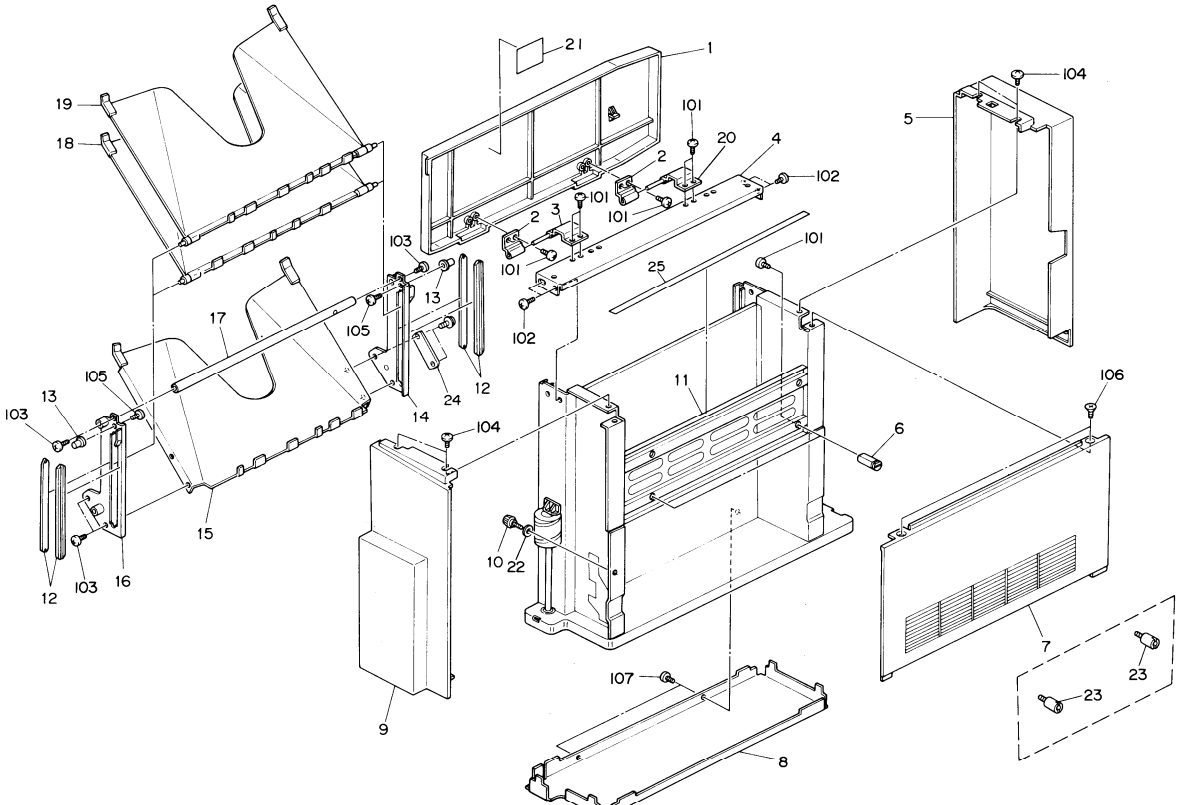
Location of Unit 3
1. Midi Sorter I (A411) 4
2. Midi Sorter II (A411) 6
3. Sorter Board (A411) 8
4. Sorter Harness (A411) 10
Parts Index 13

1. MIDI SORTER I



2. MIDI SORTER II




21
1
19
18
101
20
4
104
5
2
102
101
3
101
2
103
101
25
101
13
17
105
102
11
106
105
13
103
14
24
12
104
6
15
10
22
12
103
16
107
7
9
8
23
23

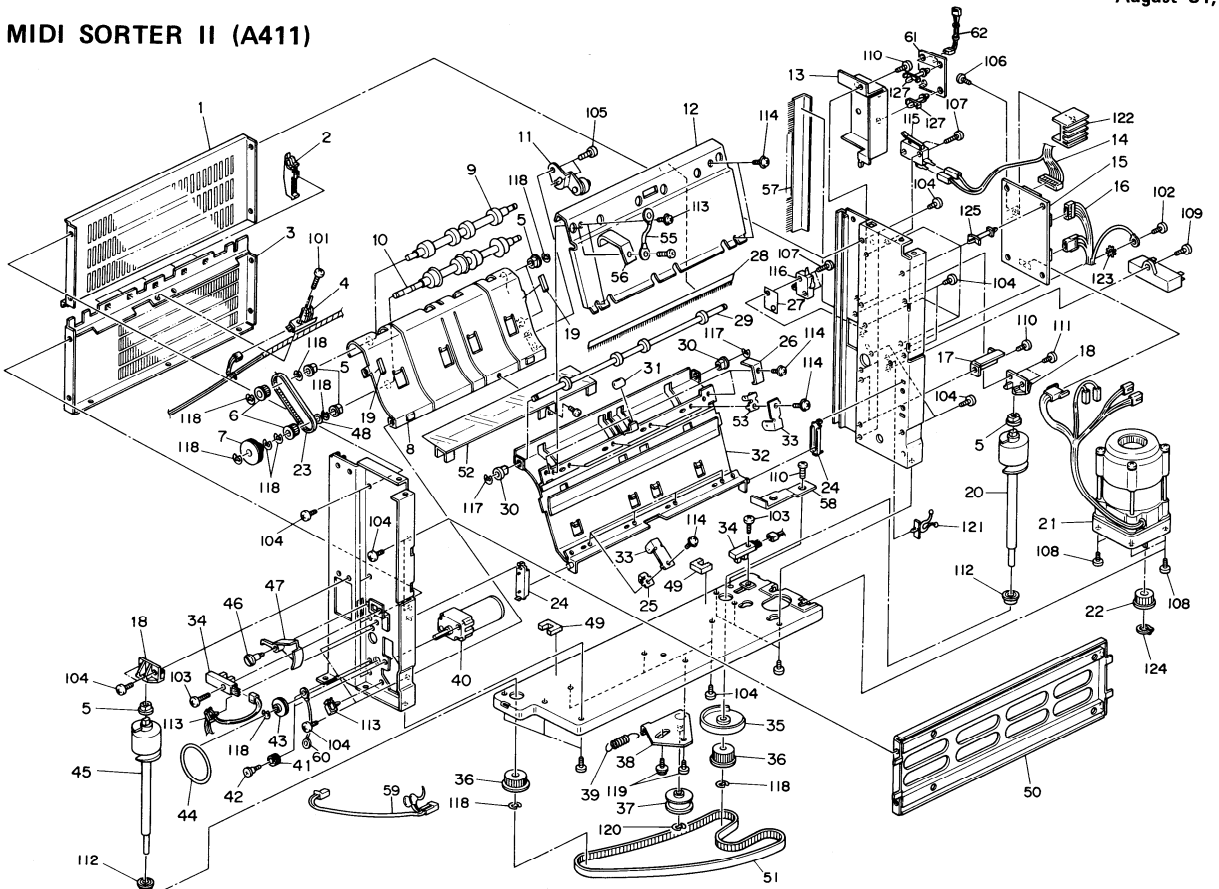
1. MIDI SORTER I (A411)

August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
*	A411 8612	Installation Procedure - English	1
*	A411 8616	Installation Procedure - 5 Language	1
*	A411 7131	Multi-Lingual Decal	1
1	A411 6311	Upper Cover	1
2	A411 6371	Hinge - Upper Cover	2
3	A411 6361	Front Hinge - Lower	1
4	A411 1711	Upper Stay	1
5	A411 6211	Rear Cover	1
6	AA14 8017	Stud - 28mm	2
7	A411 6411	Right Cover	1
8	A411 1810	Base Cover	1
9	A411 6111	Front Cover	1
10	A411 1456	Knob Screw	1
11	A411 1421	Side Stay	1
12	A411 3771	Bin Guide	4
13	A411 3761	Guide Pin	2
14	A411 3611	Rear Side Plate - Bin Unit	1
15	A411 3211	Bottom Bin	1
16	A411 3511	Front Side Plate - Bin Unit	1
17	A411 3751	Stay - Bin Unit	1
18	A411 3121	Sorter Bin - Even	10
19	A411 3111	Sorter Bin - Odd	10
20	A411 6351	Rear Hinge - Lower	1
21	A411 7117	Decal - Misfeed Removal	1
22	5866 1728	Collar - 6.1mm	1
23	6769 1127	Lower Mounting Stud	1
24	A411 3811	Grounding Plate - Bin Unit	1
25	6769 1128	Mounting Stay Magnet	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0314 0060W	Philips Pan Head Screw - M4x6	
102	0434 0080W	Tapping Screw - M4x8	
103	0314 0080W	Philips Pan Head Screw - M4x8	
104	0344 0080F	Philips Truss Head Screw - M4x8	
105	0344 0080W	Philips Truss Head Screw - M4x8	
106	0324 0080F	Sunken Head Screw - M4x8	
107	0964 4008W	Tapping Screw With Flat Washer - M4x8	

2. MIDI SORTER II (A411)



2. MIDI SORTER II (A411)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A411 1611	Middle Stay	1
2	A411 2811	Paper Stopper	5
3	A411 1511	Lower Stay	1
4	6803 5430	Paper Exit Sensor	1
5	5053 0447	Bushing - 6mm	6
6	AB03 0009	Pulley - 18T	2
7	AB03 2020	Idle Pulley - 6x22x11mm	1
8	A411 2111	Lower Guide Plate - Transport	1
9	AF02 0016	Lower Exit Roller	1
10	AF02 0017	Lower Transport Roller	1
11	A411 2751	Tightener - Transport Drive	1
12	A411 2551	Guide Plate Cover	1
13	A411 4926	Cover - Rear Helical Cam	1
14	A411 5600	Sorter Harness	1
15	A411 5508	Sorter Main Board	1
16	A411 5610	Sorter Interface Harness	1
17	A411 4911	Harness Bracket	1
18	A411 4251	Helical Cam Bracket	1
19	AA02 1004	Magnet - Upper Guide Plate	2
20	A411 4105	Rear Helical Cam Ass'y	1
21	A411 5400	Bin Motor - AC31W/38W - 115V	1
21	A411 5410	Bin Motor - AC31W/38W - 220V/240V	1
22	AB03 0010	Pulley - 18T	1
23	0806 5016	Timing Belt - 112MXL	1
24	A411 2851	Guide - Upper Guide Plate	2
26	A411 2621	Plate Spring	2
27	5895 5732	Insulating Mylar	1
28	AA12 1001	Antistatic Brush	1
29	A411 2611	Upper Exit Roller	1
30	5919 2218	Bushing - 4x7x10mm	2
31	A411 2531	Knob Cap	1
32	A411 2511	Upper Guide Plate - Transport	1
33	A411 2691	Guide Roller - Small	4
34	5205 5250	LED Sensor Type - S	1
35	A411 4511	Actuator - One Turn Sensor	1

Index No.	Part No.	Description	Q'ty Per Assembly
36	AB03 0011	Pulley - 18T	1
37	A411 4436	Idle Pulley - Bin Drive	1
38	A411 4431	Tightener - Bin Drive Belt	1
39	AA06 0030	Tension Spring	1
40	A411 5422	Transport Motor - DC24V	1
41	AA16 1010	Rubber Cushion - 4.5x9.5x4.2mm	1
42	AA14 3025	Stepped Screw - M3	1
43	AB03 2021	Idle Pulley - 6x34x11mm	1
44	AA04 1004	Transport Drive Belt	1
45	A411 4100	Front Helical Cam Ass'y	1
46	AA14 3020	Stepped Screw - M4	1
47	A411 4611	Lever - Home Position Sensor	1
48	A411 2261	Spacer - 6.1x13x1.5mm	1
49	A411 3911	Cushion - Bin	1
50	A411 1421	Side Stay	1
51	0806 5017	Timing Belt - 1270P5M	1
52	A411 2561	Relay Guide Plate	1
52	A411 2571	Relay Guide	1
53	5918 3125	Stud - M4	1
55	A411 2553	Grounding Wire	1
56	A411 2555	Grounding Plate - Antistatic Brush	1
57	A411 3821	Antistatic Brush	1
58	A411 3851	Grounding Plate Antistatic Brush	1
59	A411 5630	Sorter Connector Adapter	1
60	A411 5620	Grounding Wire	1
61	A411 5520	Protection Circuit Board	1
62	A411 5522	Relay Harness Protection Board	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0120W	Philips Pan Head Screw - M3x12	
102	0314 0080M	Philips Pan Head Screw - M4x8	
103	0314 0100W	Philips Pan Head Screw - M4x10	
104	0434 0080W	Tapping Screw - M4x8	
105	0951 3006W	Philips Screw W/H Flat Washer - M3x6	
106	0313 0060W	Philips Pan Head Screw - M3x6	
107	0313 0140W	Philips Pan Head Screw - M3x14	
108	0315 0100W	Philips Pan Head Screw - M5x10	
109	0434 0100W	Tapping Screw - M4x10	
110	0443 0060W	Hexagon Head Tapping Screw - M3x6	
111	0443 0080W	Hexagon Head Tapping Screw - M3x8	
112	0741 3006	Ball Bearing - 6x17x6mm	
113	1105 0200	Clamp	
114	0951 3008W	Philips Screw With Flat Washer - M3x8	
115	1204 1433	Microswitch	
116	1204 1475	Microswitch	
117	0720 0030E	Retaining Ring - M3	
118	0720 0040E	Retaining Ring - M4	
119	0964 4008W	Tapping Screw With Flat Washer - M4x8	
120	0720 0060E	Retaining Ring - M6	
121	1105 0111	Cable Clip	
122	1005 0767	Heat Sink	
123	0703 0040B	Toothed Washer - M4	
124	0727 0080E	Retaining Ring - M8	
125	1105 0134	Locking Support	
126	1107 0383	Fuse - 0.5A	
127	1105 0161	Locking Support	

Index No.	Part No.	Description	Q'ty Per Assembly

CAPACITOR

SYMBOL NO.	INDEX NO.
C101	141
C102	149
C103	143
C104	178
C105	179
C106	150
C107	148
C108	146
C109	151
C110	151

SYMBOL NO.	INDEX NO.
C111	145
C112	144
C113	142
C114	143
C115	152
C116	152
C117	154
C118	154
C119	154
C120	154

SYMBOL NO.	INDEX NO.
C121	154
C122	154
C123	154
C124	154
C125	154
C126	154
C127	154
C128	154
C129	154
C130	154

SYMBOL NO.	INDEX NO.
C131	154
C132	154
C133	154
C134	154
C135	154
C136	154
C137	166
C138	154
C139	154
C140	154

SYMBOL NO.	INDEX NO.
C141	154
C142	154
C143	154
C144	154
C145	154
C146	154
C147	180
C148	154
C149	154
C150	154

SYMBOL NO.	INDEX NO.
C151	180

DIP SWITCH

SYMBOL NO.	INDEX NO.
DIP101	112

VARIABLE RESISTOR

SYMBOL NO.	INDEX NO.
VR101	136
VR102	136
VR103	137
VR104	139
VR105	139
VR106	138

CONNECTOR

SYMBOL NO.	INDEX NO.
CN101	103
CN102	102
CN103	104
CN104	107
CN105	105
CN106	4

FUSE

SYMBOL NO.	INDEX NO.
FU101	111
	110
FU102	182
	110

RESISTOR ARRAY

SYMBOL NO.	INDEX NO.
RAY101	135

IC

SYMBOL NO.	INDEX NO.
IC101	176
IC102	116
IC102	5
IC103	175
IC104	7
IC105	121
IC106	6
IC106	109
IC107	174
IC108	129

SYMBOL NO.	INDEX NO.
IC109	123
IC110	120
IC111	129
IC112	124
IC113	125
IC114	127
IC115	129
IC116	128
IC117	119

RESISTOR

SYMBOL NO.	INDEX NO.
R101	161
R102	177
R103	169
R104	133
R105	167
R106	169
R107	172
R108	134
R109	167
R110	170

SYMBOL NO.	INDEX NO.
R111	134
R112	171
R113	173
R114	168
R115	155
R116	161
R117	164
R118	155
R119	161
R120	161

SYMBOL NO.	INDEX NO.
R121	161
R122	161
R123	160
R124	160
R125	160
R126	160
R127	164
R128	164
R129	164
R130	164

SYMBOL NO.	INDEX NO.
R131	156
R132	158
R133	158
R134	158
R135	158
R136	163
R137	163
R138	161
R139	161
R140	161

SYMBOL NO.	INDEX NO.
R141	165
R142	161
R143	161
R144	161
R145	161
R146	161
R147	161
R148	161
R149	161
R150	161

SYMBOL NO.	INDEX NO.
R151	161
R152	161
R153	163
R154	163
R155	158
R156	158
R157	161
R158	161
R159	161
R160	161

SYMBOL NO.	INDEX NO.
R161	161
R162	161
R163	161
R164	157
R165	161
R166	161
R167	161
R168	161
R169	161
R170	157

SYMBOL NO.	INDEX NO.
R171	157
R172	157
R173	157
R174	157
R175	161
R176	161
R177	157
R178	157
R179	157
R180	157

SYMBOL NO.	INDEX NO.
R181	161
R182	157
R183	157
R184	157
R185	157
R186	165
R187	165
R188	165
R189	165
R190	181

SYMBOL NO.	INDEX NO.
R191	161
R192	159

SWITCH

SYMBOL NO.	INDEX NO.
SW101	113
SW102	113

LED

SYMBOL NO.	INDEX NO.
LED101	118
LED102	118
LED103	118
LED104	118
LED105	118
LED106	118

TEST POINT

SYMBOL NO.	INDEX NO.
TP101	101
TP102	101
TP103	101
TP104	101
TP105	101
TP107	101

DIODE

SYMBOL NO.	INDEX NO.
D101	
D102	117
D103	117
D104	117
D105	117

NOISE FILTER

SYMBOL NO.	INDEX NO.
NF101	140

OSCILLATOR

SYMBOL NO.	INDEX NO.
OSC101	130

TRANSISTOR

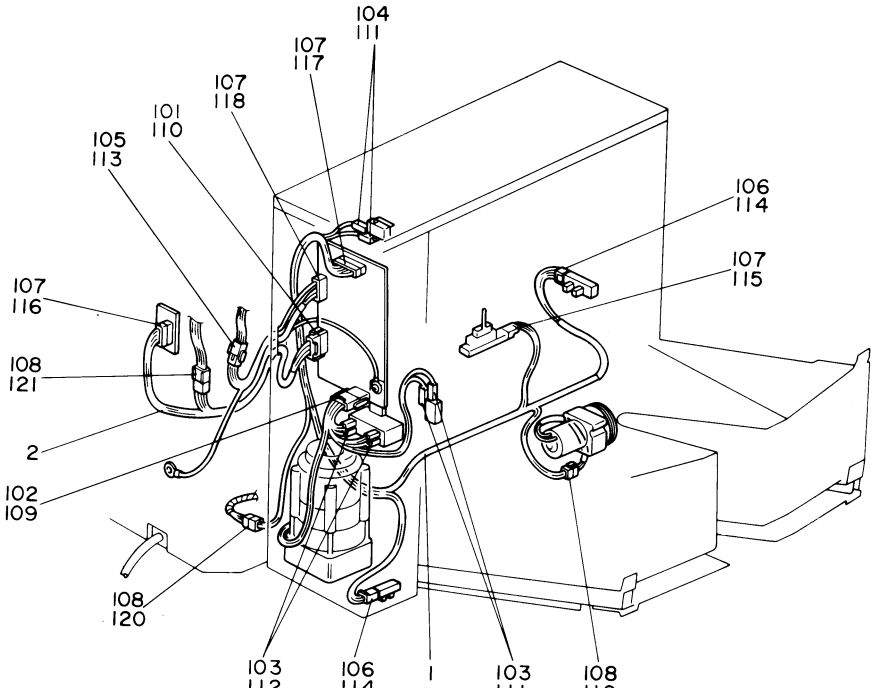
SYMBOL NO.	INDEX NO.
Q101	114
Q102	115

3. SORTER BOARD (A411)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A411 5508	Sorter Main Board	1

Index No.	Part No.	Description	Q'ty Per Assembly
102	1102 0995	Connector - 2P	
103	1103 0829	Connector - 3P	
104	1103 1737	Connector - 15P	
105	1103 1748	Connector - 12P	
106	1208 1047	Solid State Relay - 240V 3A	
107	1400 0072	Transistor - 2SC372Y	
108	1401 0192	IC - µPA2003C	
109	1401 0611	Diode - 1S1588	
110	1401 0832	Diode - DSA1A1	
111	1402 0185	Zener Diode - AW01 - D8	
112	1402 0423	Diode - S5500G	
113	1402 0489	Diode - U15J	
114	1405 0127	Photothyristor - TLP541G	
115	1405 0175	Thyristor - 400V 8A	
116	1407 1850	IC - TD62601P	
117	1600 0370	Resistor - 100OHM 1T ± 5%	
118	1600 1038	Resistor - 1OHM 5T ± 5%	
119	1602 2627	Resistor - 220OHM 1W	
120	1604 0967	Capacitor - 0.68µF 35V	
121	1604 1247	Capacitor - 3.3µF 35V	
122	1604 1283	Capacitor - 4.7µF 25V	
123	1606 0658	Capacitor - 0.1µF 50V	
124	1606 0848	Capacitor - 0.01µF	
125	1606 1336	Capacitor - 1000PF 50V	
126	1606 1352	Capacitor - 0.1µF 50V	
127	1606 1581	Capacitor - 0.47µF 630VDC	
128	1611 4102	Resistor - 1KOHM 1/4T ±5%	
129	1611 4103	Resistor - 10KOHM 1/4T ±5%	
130	1611 4104	Resistor - 100KOHM 1/4T ±5%	
131	1611 4153	Resistor - 15KOHM 1/4T ±5%	
132	1611 4221	Resistor - 220OHM 1/4T ±5%	
133	1611 4272	Resistor - 2.7KOHM 1/4T ±5%	
134	1611 4331	Resistor - 330OHM 1/4T ±5%	
135	1611 4472	Resistor - 4.7KOHM 1/4T ±5%	

4. SORTER HARNESS (A411)



4. SORTER HARNESS (A411)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A411 5600	Sorter Harness	1
2	A411 5610	Sorter Interface Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1042	Socket - Mate-N-Lock	
102	1100 1043	Pin - Mate-N-Lock	
103	1100 1168	Fastening Receptacle	
104	1100 1169	Fastening Receptacle	
105	1100 1239	Pin - Mate-N-Lock	
106	1100 1249	Receptacle Terminal	
107	1100 1327	Contact	
108	1100 1328	Contact	
109	1102 0512	Connector - 3P	
110	1102 0983	Connector - 2P	
111	1102 1408	Receptacle Housing - 1P	
112	1102 1522	Connector - 2P	
113	1102 1524	Connector - 2P	
114	1102 1620	Connector - 3P	
115	1102 1911	Connector - 3P	
116	1102 1919	Connector - 11P	
117	1102 1923	Connector - 15P	
118	1102 1934	Connector - 12P	
119	1102 1952	Connector - 2P	
120	1102 1964	Connector - 2P	
121	1102 1966	Connector - 4P	

PARTS INDEX

Parts No.	Description	Page and Index No.
A411 1421	Side Stay	5-11
A411 1421	Side Stay	7-50
A411 1456	Knob Screw	5-10
A411 1511	Lower Stay	7-3
A411 1611	Middle Stay	7-1
A411 1711	Upper Stay	5-4
A411 1810	Base Cover	5-8
A411 2111	Lower Guide Plate - Transport	7-8
A411 2261	Spacer - 6.1x13x1.5mm	7-48
A411 2511	Upper Guide Plate - Transport	7-32
A411 2531	Knob Cap	7-31
A411 2551	Guide Plate Cover	7-12
A411 2553	Grounding Wire	7-55
A411 2555	Grounding Plate - Antistatic Brush	7-56
A411 2561	Relay Guide Plate	7-52
A411 2571	Relay Guide	7-52
A411 2611	Upper Exit Roller	7-29
A411 2621	Plate Spring	7-26
A411 2691	Guide Roller - Small	7-33
A411 2751	Tightener - Transport Drive	7-11
A411 2811	Paper Stopper	7-2
A411 2851	Guide - Upper Guide Plate	7-24
A411 3111	Sorter Bin - Odd	5-19
A411 3121	Sorter Bin - Even	5-18
A411 3211	Bottom Bin	5-15
A411 3511	Front Side Plate - Bin Unit	5-16
A411 3611	Rear Side Plate - Bin Unit	5-14
A411 3751	Stay - Bin Unit	5-17
A411 3761	Guide Pin	5-13
A411 3771	Bin Guide	5-12
A411 3811	Grounding Plate - Bin Unit	5-24
A411 3821	Antistatic Brush	7-57
A411 3851	Grounding Plate Antistatic Brush	7-58
A411 3911	Cushion - Bin	7-49
A411 4100	Front Helical Cam Ass'y	7-45

Parts No.	Description	Page and Index No.
A411 4105	Rear Helical Cam Ass'y	7-20
A411 4251	Helical Cam Bracket	7-18
A411 4431	Tightener - Bin Drive Belt	7-38
A411 4436	Idle Pulley - Bin Drive	7-37
A411 4511	Actuator - One Turn Sensor	7-35
A411 4611	Lever - Home Position Sensor	7-47
A411 4911	Harness Bracket	7-17
A411 4926	Cover - Rear Helical Cam	7-13
A411 5400	Bin Motor - AC31W/38W - 115V	7-21
A411 5410	Bin Motor - AC31W/38W - 220V/240V	7-21
A411 5422	Transport Motor - DC24V	7-40
A411 5508	Sorter Main Board	7-15
A411 5508	Sorter Main Board	9-*
A411 5520	Protection Circuit Board	7-61
A411 5522	Relay Harness Protection Board	7-62
A411 5600	Sorter Harness	11-1
A411 5600	Sorter Harness	7-14
A411 5610	Sorter Interface Harness	11-2
A411 5610	Sorter Interface Harness	7-16
A411 5620	Grounding Wire	7-60
A411 5630	Sorter Connector Adapter	7-59
A411 6111	Front Cover	5-9
A411 6211	Rear Cover	5-5
A411 6311	Upper Cover	5-1
A411 6351	Rear Hinge - Lower	5-20
A411 6361	Front Hinge - Lower	5-3
A411 6371	Hinge - Upper Cover	5-2
A411 6411	Right Cover	5-7
A411 7117	Decal - Misfeed Removal	5-21
A411 7131	Multi-Lingual Decal	5-*
A411 8612	Installation Procedure - English	5-*
A411 8616	Installation Procedure - 5 Language	5-*

Parts No.	Description	Page and Index No.
AA02 1004	Magnet - Upper Guide Plate	7-19
AA04 1004	Transport Drive Belt	7-44
AA06 0030	Tension Spring	7-39
AA12 1001	Antistatic Brush	7-28
AA14 3020	Stepped Screw - M4	7-46
AA14 3025	Stepped Screw - M3	7-42
AA14 8017	Stud - 28mm	5-6
AA16 1010	Rubber Cushion - 4.5x9.5x4.2mm	7-41
AB03 0009	Pulley - 18T	7-6
AB03 0010	Pulley - 18T	7-22
AB03 0011	Pulley - 18T	7-36
AB03 2020	Idle Pulley - 6x22x11mm	7-7
AB03 2021	Idle Pulley - 6x34x11mm	7-43
AF02 0016	Lower Exit Roller	7-9
AF02 0017	Lower Transport Roller	7-10
5053 0447	Bushing - 6mm	7-5
5205 5250	LED Sensor Type - S	7-34
5866 1728	Collar - 6.1mm	5-22
5895 5732	Insulating Mylar	7-27
5918 3125	Stud - M4	7-53
5919 2218	Bushing - 4x7x10mm	7-30
6769 1127	Lower Mounting Stud	5-23
6769 1128	Mounting Stay Magnet	5-25
6803 5430	Paper Exit Sensor	7-4

Parts No.	Description	Page and Index No.
0313 0060W	Philips Pan Head Screw - M3x6	7-106
0313 0120W	Philips Pan Head Screw - M3x12	7-101
0313 0140W	Philips Pan Head Screw - M3x14	7-107
0314 0060W	Philips Pan Head Screw - M4x6	5-101
0314 0080M	Philips Pan Head Screw - M4x8	7-102
0314 0080W	Philips Pan Head Screw - M4x8	5-103
0314 0100W	Philips Pan Head Screw - M4x10	7-103
0315 0100W	Philips Pan Head Screw - M5x10	7-108
0324 0080F	Sunken Head Screw - M4x8	5-106
0344 0080F	Philips Truss Head Screw - M4x8	5-104
0344 0080W	Philips Truss Head Screw - M4x8	5-105
0434 0080W	Tapping Screw - M4x8	5-102
0434 0080W	Tapping Screw - M4x8	7-104
0434 0100W	Tapping Screw - M4x10	7-109
0443 0060W	Hexagon Head Tapping Screw - M3x6	7-110
0443 0080W	Hexagon Head Tapping Screw - M3x8	7-111
0703 0040B	Toothed Washer - M4	7-123
0720 0030E	Retaining Ring - M3	7-117
0720 0040E	Retaining Ring - M4	7-118
0720 0060E	Retaining Ring - M6	7-120
0727 0080E	Retaining Ring - M8	7-124
0741 3006	Ball Bearing - 6x17x6mm	7-112
0806 5016	Timing Belt - 112MXL	7-23
0806 5017	Timing Belt - 1270P5M	7-51
0951 3006W	Philips Screw W/H Flat Washer - M3x6	7-105
0951 3008W	Philips Screw With Flat Washer - M3x8	7-114
0964 4008W	Tapping Screw With Flat Washer - M4x8	5-107
0964 4008W	Tapping Screw With Flat Washer - M4x8	7-119
1005 0767	Heat Sink	7-122
1100 1042	Socket - Mate-N-Lock	11-101
1100 1043	Pin - Mate-N-Lock	11-102
1100 1168	Fastening Receptacle	11-103
1100 1169	Fastening Receptacle	11-104
1100 1239	Pin - Mate-N-Lock	11-105
1100 1249	Receptacle Terminal	11-106

Parts No.	Description	Page and Index No.
1100 1327	Contact	11-107
1100 1328	Contact	11-108
1102 0512	Connector - 3P	11-109
1102 0983	Connector - 2P	11-110
1102 0995	Connector - 2P	9-102
1102 1408	Receptacle Housing - 1P	11-111
1102 1522	Connector - 2P	11-112
1102 1524	Connector - 2P	11-113
1102 1620	Connector - 3P	11-114
1102 1911	Connector - 3P	11-115
1102 1919	Connector - 11P	11-116
1102 1923	Connector - 15P	11-117
1102 1934	Connector - 12P	11-118
1102 1952	Connector - 2P	11-119
1102 1964	Connector - 2P	11-120
1102 1966	Connector - 4P	11-121
1103 0829	Connector - 3P	9-103
1103 1737	Connector - 15P	9-104
1103 1748	Connector - 12P	9-105
1105 0111	Cable Clip	7-121
1105 0134	Locking Support	7-125
1105 0161	Locking Support	7-127
1105 0200	Clamp	7-113
1107 0383	Fuse - 0.5A	7-126
1204 1433	Microswitch	7-115
1204 1475	Microswitch	7-116
1208 1047	Solid State Relay - 240V 3A	9-106
1400 0072	Transistor - 2SC372Y	9-107
1401 0192	IC - µPA2003C	9-108
1401 0611	Diode - 1S1588	9-109
1401 0832	Diode - DSA1A1	9-110
1402 0185	Zener Diode - AW01 - D8	9-111
1402 0423	Diode - S5500G	9-112
1402 0489	Diode - U15J	9-113
1405 0127	Photothyristor - TLP541G	9-114

Parts No.	Description	Page and Index No.
1405 0175	Thyristor - 400V 8A	9-115
1407 1850	IC - TD62601P	9-116
1600 0370	Resistor - 100OHM 1T ± 5%	9-117
1600 1038	Resistor - 1OHM 5T ± 5%	9-118
1602 2627	Resistor - 220OHM 1W	9-119
1604 0967	Capacitor - 0.68µF 35V	9-120
1604 1247	Capacitor - 3.3µF 35V	9-121
1604 1283	Capacitor - 4.7µF 25V	9-122
1606 0658	Capacitor - 0.1µF 50V	9-123
1606 0848	Capacitor - 0.01µF	9-124
1606 1336	Capacitor - 1000PF 50V	9-125
1606 1352	Capacitor - 0.1µF 50V	9-126
1606 1581	Capacitor - 0.47µF 630VDC	9-127
1611 4102	Resistor - 1KOHM 1/4T ±5%	9-128
1611 4103	Resistor - 10KOHM 1/4T ±5%	9-129
1611 4104	Resistor - 100KOHM 1/4T ±5%	9-130
1611 4153	Resistor - 15KOHM 1/4T ±5%	9-131
1611 4221	Resistor - 220OHM 1/4T ±5%	9-132
1611 4272	Resistor - 2.7KOHM 1/4T ±5%	9-133
1611 4331	Resistor - 330OHM 1/4T ±5%	9-134
1611 4472	Resistor - 4.7KOHM 1/4T ±5%	9-135

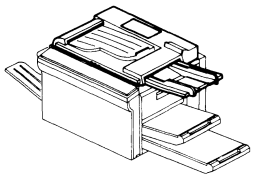
DF51

(A418)

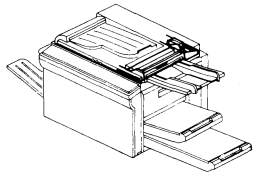
DF51

Location of Unit 3
1. DF I (A418) 4
2. DF II (A418) 6
3. DF III (A418) 8
4. DF Main Board (A418) 10
5. DF Harness (A418) 12
Parts Index 16

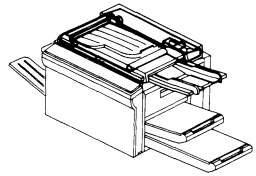
1. DF I

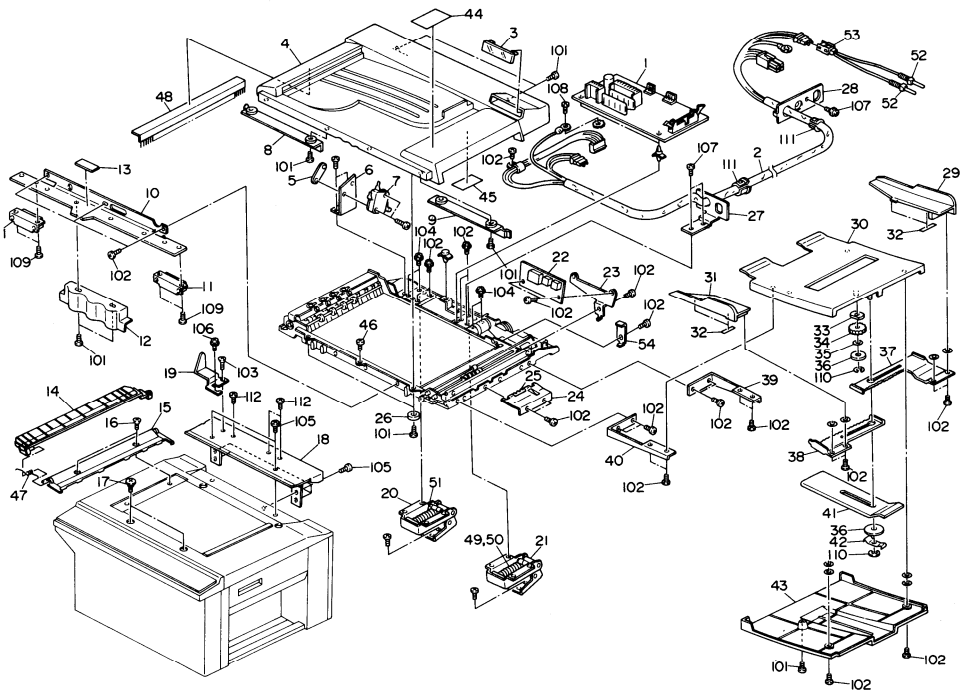


2. DF II



3. DF III




44
3
4
101
108
1
53
52
48
28
107
52
8
101
5
6
7
102
45
111
107
2
111
27
29
13
10
1
109
102
9
104
102
102
22
23
102
30
32
11
109
106
12
101
104
102
102
102
54
31
32
33
34
35
36
110
37
46
19
103
112
14
15
16
112
105
18
105
47
17
25
24
102
26
101
39
102
102
102
40
102
38
102
41
36
42
110
51
20
49,50
21
43
101
102
102

1. DF I (A418)

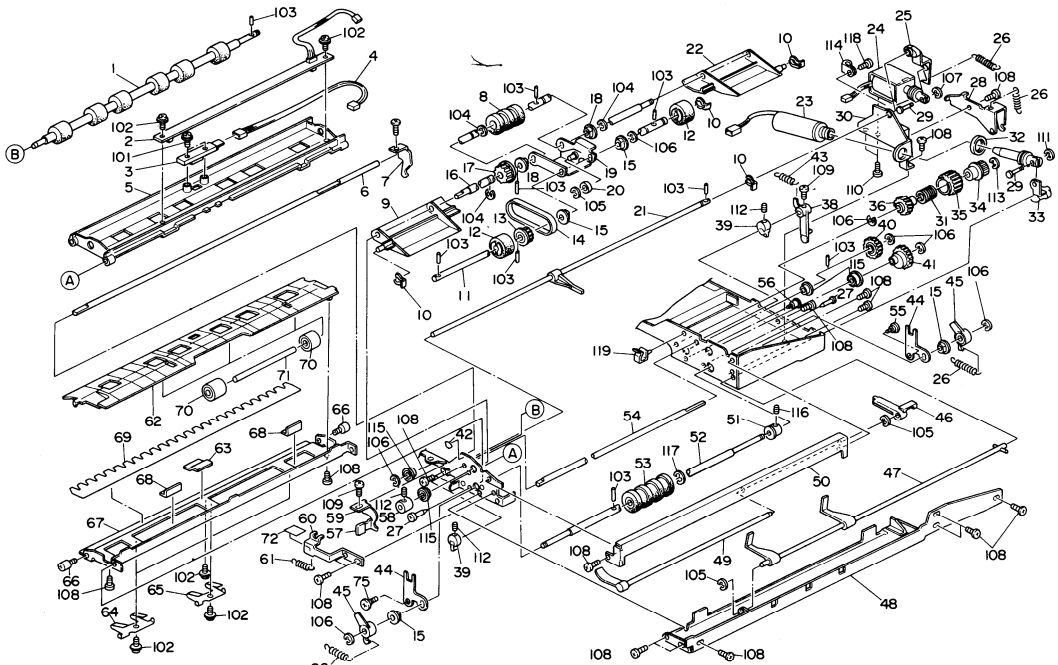
August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
*	A418 8610	Installation Procedure - English	1
*	A418 8615	Installation Procedure - 5 Language	1
1	A418 5615	DF Main Board	1
2	A418 5804	Interface Harness	1
3	A418 1234	Display Panel	1
4	A418 1230	DF Cover	1
5	5056 0509	Nut Plate - Micro Switch	1
6	A418 1144	Bracke Switch Bracket	1
7	1204 1319	Micro Switch	1
8	A418 1231	Left Supporter	1
9	A418 1232	Right Supporter	1
10	A418 1154	Grip Plate	1
11	5936 2480	Magnetic Catch Ass'y	2
12	A418 1236	Glip - Cover	1
13	5918 3394	Seal - 15x30mm	1
14	A418 3117	Glip Scale - LT/LDG	1
14	A418 3127	Flip Scale - A3/A4	1
15	A418 1180	Original Exit Guide	1
16	A419 3877	Shoulder Screw - Scale	2
17	5875 5510	Shoulder Screw - M5	2
18	A418 1307	DF Fixing Plate	1
19	A418 1295	Lift Switch Actuator Plate	1
20	A418 1290	Left Hinge	1
21	A418 1270	Right Hinge	1
22	A418 5621	Display Board	1
23	A418 1237	Display Board Bracket	1
24	A418 1251	Original Table Guide	1
25	5918 2725	Mylar - Feed-in	1
26	5886 3114	Roller Cover	2
27	A418 1160	DF Harness Bracket	1
28	A418 1300	Interface Harness Bracket	1
29	A418 1254	Rear Original Guide	1
30	A418 3217	Original Feed Table - LT/LDG	1
30	A418 3227	Original Feed Table - A3/A4	1
31	A418 1253	Front Original Guide	1

Index No.	Part No.	Description	Q'ty Per Assembly
32	5894 2747	Mylar - Original Guides	4
33	A418 1260	Cork Pad	1
34	5443 2657	Gear - 28T	1
35	5443 2713	Wave Washer	1
36	5443 2660	Spacer - 6x22x0.5mm	2
37	A419 2728	Rack - Rear Original Guide	1
38	A419 2726	Rack - Front Original Guide	1
39	A418 1262	Rear Table Bracket	1
40	A418 1261	Front Table Bracket	1
41	A418 1255	Original Table Extender	1
42	5918 2770	Extender Spring Plate	1
43	A418 1252	Original Table Cover	1
44	A418 1801	Decal - Misfeed Removal	1
44	A418 1805	Decal Jan Removal	1
45	A418 4002	Decal - DIP Switch	1
46	5918 3040	Shoulder Screw - M4	1
47	A418 1153	Spring - Flip Scale	1
48	A418 1185	Austatics Brush	1
49	A418 1271	Right Hinge Spring - Outer	2
50	A418 1272	Right Hinge Spring - Inner	2
51	A418 1291	Left Hinge Spring	2
52	A418 5807	Fiber Optics Harness	1
53	A418 5701	Fiber Connector	1
54	A418 1241	Display Panel Bracket	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0344 0060D	Philips Truss Head Screw - M4x6	
102	0314 0060W	Philips Pan Head Screw - M4x6	
103	0324 0120W	Philips Sunken Head Screw - M4x12	
104	0314 0100W	Philips Pan Head Screw - M4x10	
105	0315 0100W	Philips Pan Head Screw - M5x10	
106	0951 4010W	Philips Screw With Flat Washer - M4x10	
107	0434 0080W	Tapping Screw - M4x8	
108	0314 0080M	Philips Pan Head Screw - M4x8	
109	0313 0160W	Philips Pan Head Screw - M3x16	
110	0720 0040E	Retaining Ring - M4	
111	1106 0134	Universal Bushing - 2.4mm	
112	0434 0060W	Tapping Screw - M4x6	

Index No.	Part No.	Description	Q'ty Per Assembly

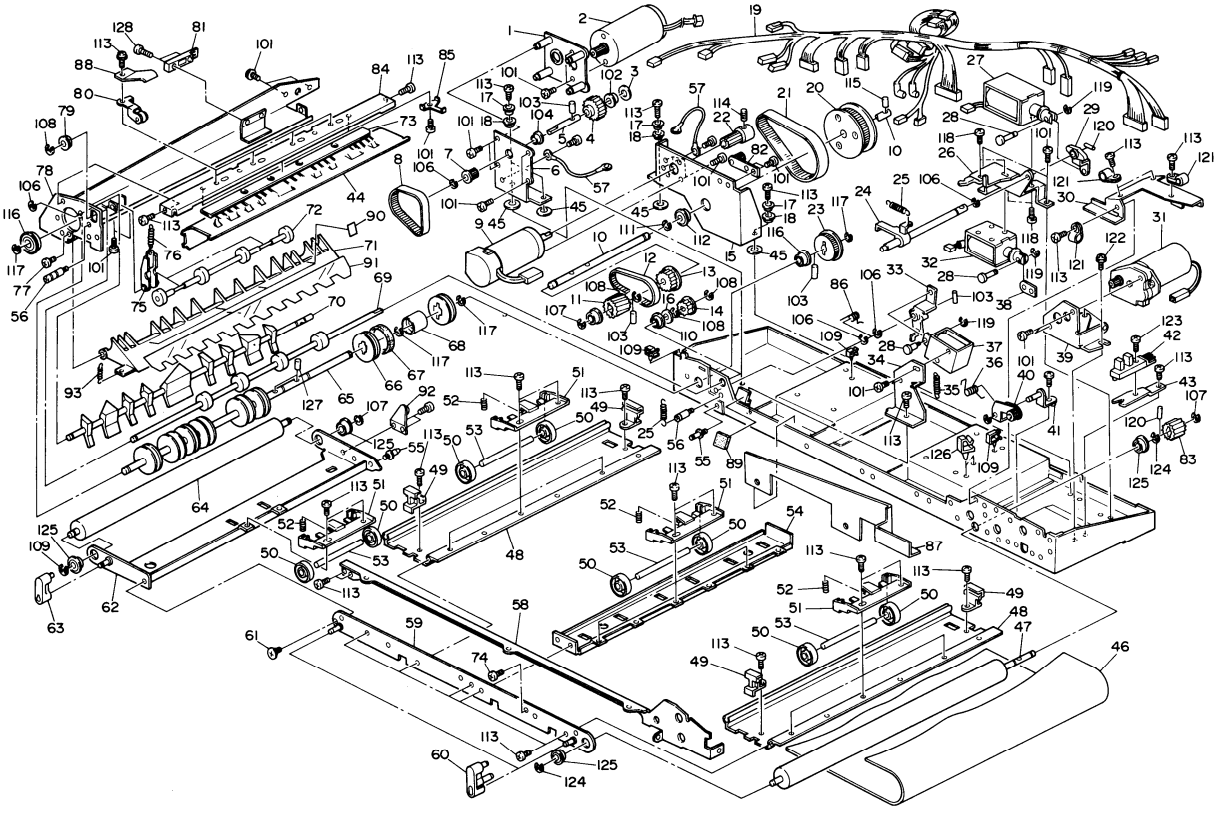


Index No.	Part No.	Description	Q'ty Per Assembly
1	5918 2155	Registration Roller	1
2	5918 5631	Paper Suze Sensor	1
3	5918 5722	Photosensor	1
4	5918 5821	Registration Sensor Harness	1
5	5918 2520	Upper Feed-in Guide	1
6	5918 2168	Release Lever Shaft	1
7	5918 2172	Rear Release Lever	1
8	5894 2181	Upper Separation Roller	1
9	A418 2230	Front Feed-in Guide	1
10	5447 2681	Snap Ring	3
11	5918 2220	Pick-up Roller Shaft	1
12	5894 2171	Original Feed Roller	2
13	5918 2223	Pulley - 24T	1
14	5894 2174	Timing Belt	1
15	5053 0447	Bushing - 6mm	4
16	5918 2224	Feed Roller Shaft	1
17	5894 2186	Separation Roller Pulley	1
18	5053 0223	Bushing - 8mm	2
19	5918 2215	Pick-up Roller Bracket	1
20	5894 2163	Center Roller	1
21	5918 2375	Pick-up Control Shaft	1
22	A418 2231	Rear Feed-in Guide	1
23	5918 5501	Stopper Solenoid	1
24	5918 5515	Pick-up Solenoid	1
25	5918 2371	Pick-up Lever	1
26	5894 2176	Spring - Detent Arm	4
27	5446 2824	Screw - Duplex Guide Plate	2
28	5918 2373	Stopper Bracket	1
29	5894 2229	Solenoid Pin	1
30	5918 2370	Pick-up Solenoid Bracket	1
31	5918 2163	Clutch Spring	1
32	A418 1159	Spacer - M4.5x1	1
33	5918 2372	Stopper Lever	1
34	5918 2158	Pulley - 25T	1
35	5918 2164	Clutch Sleeve	1

Index No.	Part No.	Description	Q'ty Per Assembly
36	5918 2159	Gear - 24T	1
38	5918 2340	Release Arm	1
39	5918 2105	Eccentric Cam	1
40	5918 2156	Gear - 24T	1
41	5918 2230	Gear - 45T	1
42	5918 2781	Decal - Feed-in	1
43	5894 2293	Spring - Original Stopper	1
45	5918 2106	One Way Bearing Lever	2
46	5918 2250	Sensor Actuator	1
47	5918 2150	Feed-in Stopper	1
48	A419 3355	Right Frame	1
49	5918 2260	Feed-in Sensor Feeler	1
50	5918 2252	Right Stay	1
51	5894 2264	Collar	1
52	5918 2101	Separation Roller Shaft	1
53	5894 2183	Lower Separation Roller	1
54	5918 2103	Eccentric Cam Shaft	1
55	5413 2298	Stepped Screw - M4	2
56	5403 2049	Spring Anchor	1
57	A411 2531	Knob Cap	1
58	5918 2210	Collar - 6mm	1
59	5918 2170	Front Release Lever	1
60	5918 2108	Adjusting Plate	1
61	5201 2832	Feed Clutch Spring	1
62	5918 2610	Lower Feed-in Guide	1
63	5918 2624	Seal - 12x17x0.7mm	1
64	5918 2615	Spring Plate	2
65	5918 2616	Middle Spring Plate	I
66	5413 1875	Knob Screw	1
67	5918 2621	Entrance Guide	1
68	5875 5501	Sensor Pad	2
69	5918 2623	Paper Guide Mylar	1
70	5894 2412	Roller	6
71	5894 2413	Relay Roller Shaft	3
72	A418 2226	Rubber Seal - 10x10x3	1

Index No.	Part No.	Description	Q'ty Per Assembly
75	A418 2102	Front Adjusting Plate	1
76	A418 2103	Rear Adjusting Plate	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0965 3010W	Tapping Screw With Flat Washer - M3x10	
102	0965 4006W	Tapping Screw - M4x6	
103	0632 0100E	Pin - 2x10mm	
104	0720 0060E	Retaining Ring - M6	
105	0720 0030E	Retaining Ring - M3	
106	0720 0050E	Retaining Ring - M5	
107	0720 0025E	Retaining Ring - M2.5	
108	0314 0060W	Philips Pan Head Screw - M4x6	
109	0313 0060W	Philips Pan Head Screw - M3x6	
110	0313 0040W	Philips Pan Head Screw - M3x4	
111	0720 0025E	Retaining Ring - M2.5	
112	0574 0040E	Hexagon Headless Set Screw - M4x4	
113	0720 0040E	Retaining Ring - M4	
114	1105 0005	Nylon Clip - 3N	
115	0805 3145	Ball Bearing - 6x12x4mm	
116	0574 0040E	Hexagon Headless Set Screw - M4x4	
117	0720 0070E	Retaining Ring - M7	
118	0965 4008W	Tapping Screw With Flat Washer - M4x8	



Index No.	Part No.	Description	Q'ty Per Assembly
1	A409 1198	Rear Side Plate - Exit Drive	1
2	A409 1234	Exit Motor - DC 9W	1
3	A409 1197	Spacer - 10x16x1.6mm	1
4	A409 1201	Gear - 46T	1
5	A409 1195	Exit Drive Shaft	1
6	A418 1142	Front Side Plate - Exit Drive	1
7	A409 1192	Pulley - 15T	1
8	A409 1191	Timing Belt - 83mm	1
9	5936 5501	Transport Drive Motor - DC 21W	1
10	A418 1055	Middle Drive Shaft	1
11	5918 2317	Gear - 19T	1
12	5918 2314	Timing Belt - MM63	1
13	5918 2313	Pulley - 30T	1
14	A409 1161	Pulley - 21T	1
15	A418 1141	Motor Bracket	1
16	A418 1158	Spacer - M6.5x1	1
17	A418 1145	Collar - M6	4
18	A418 1146	Rubber Bushing - M6	4
19	A418 5811	Main Harness	1
20	5918 2295	Pulley - 79T	1
21	5918 2316	Timing Belt - P2M 208	1
22	5918 2270	Pulley - 15T	1
23	A409 1143	Pulley - 50T	1
24	5918 2330	Clutch Lever	1
25	5408 3253	Spring - Detent Arm	2
26	5918 2324	Solenoid Bracket	1
27	5918 5525	Registration Solenoid	1
28	5894 2229	Solenoid Pin	3
29	5918 2325	Stopper Lever	1
30	5918 2385	Harness Bracket Ass'y	1
31	5918 2349	Feed-in Motor Ass'y - DC24V	1
32	5918 5516	Release Solenoid	1
33	5918 2372	Stopper Lever	1
34	A409 1154	Bracket - Inverter Gate Solenoid	1
35	A409 1153	Spring - Inverter Guide Plate	1

Index No.	Part No.	Description	Q'ty Per Assembly
36	5918 2289	Spring	1
37	A409 5511	Inverter Solenoid	1
38	5918 2327	Release Lever	1
39	5918 2355	Feed-in Motor Bracket	1
40	5918 2274	Timing Belt Tightener	1
41	5918 2285	Tightener Stud	1
42	5215 5230	Photointerrupter - L-Type	1
43	5918 2380	Sensor Bracket	1
44	A418 1140	Exit Guide Plate	1
45	A418 1147	Seal - M10x1	4
46	A419 1120	Original Feed Belt	1
47	5918 3369	Belt Drive Roller	1
48	5918 1556	Belt Stay	2
49	5918 3382	Belt Stopper	2
50	5918 3381	Floating Roller	18
51	5918 3383	Holder - Floating Roller	3
52	5918 3380	Spring - Floating Roller	9
53	5875 1540	Shaft - Floating Roller	9
54	5918 3385	Belt Unit Stay	1
55	5918 3125	Stud - M4	1
56	A409 1150	Spring Anchor	2
57	A418 5821	Grounding Wire	2
58	A409 1133	Front Frame	1
59	5918 3395	Front Belt Unit Plate	1
60	5918 3007	Belt Unit Holder - A	2
61	5413 2298	Stepped Screw - M4	1
62	5918 3365	Belt Release Bracket	1
63	5918 3092	Belt Unit Holder - B	1
64	5918 3370	Belt Roller	1
65	A409 1142	Turn Roller Shaft	1
66	5936 2542	Turn Pulley	8
67	A418 9001	Turn Roller Ring (8pcs/set)	8
68	A409 1162	Collar - Inverter Solenoid	1
69	5918 3536	Exit Roller	1
70	A409 1152	Inverter Gate	1

Index No.	Part No.	Description	Q'ty Per Assembly
71	A409 1149	Guide Plate - Inverter	1
72	A418 1163	Idle Roller	1
73	5918 3562	Antistatic Brush	1
74	5413 1882	Step Screw	1
75	A409 1147	Idle Roller Arm	2
76	5446 6365	Spring - Discharge Roller	2
77	5446 2824	Screw - Duplex Guide Plate	1
78	A418 1139	Left Frame	1
79	5053 0447	Bushing - 6mm	1
80	5918 3585	Upper Exit Roller	4
81	5918 5722	Photosensor	1
82	A418 1148	Belt Tightener	1
83	5918 2318	Gear - 19T	1
84	A409 1138	Exit Roller Bracket	1
85	A409 1139	Clamp - Discharge Brush	2
86	A409 1156	Spring - Lever - Reverse	1
87	A418 1129	Harness Cover	1
88	A418 1186	Grouding Plate	1
89	A418 1240	Cushion 21x20x2	1
90	A418 1164	Mylar Seal 15x12x0.1	4
91	5918 2623	Paper Guide Mylar	1
92	A418 1125	Belt Unit Stopper	1
93	A418 3253	Spring - Inverter Guide Plate	2

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0742 3905	Ball Bearing - 5x13x4mm	
103	0632 0100E	Pin - 2x10mm	
104	0741 3505	Ball Bearing - 5x10x4mm	
105	0314 0040W	Philips Pan Head Screw - M4x4	
106	0720 0030E	Retaining Ring - M3	
107	0720 0050E	Retaining Ring - M5	
108	0720 0040E	Retaining Ring - M4	
109	1105 0087	Clamp	
110	0741 3506	Ball Bearing - 6x12x4mm	
111	0720 0070W	Retaining Ring - M7	
112	0805 3291	Ball Bearing - 8x16x5mm	
113	0314 0060W	Philips Pan Head Screw - M4x6	
114	0574 0040E	Hexagon Headless Set Screw - M4x4	
115	0633 0160E	Pin - 3x16mm	
116	0742 3808	Ball Bearing - 8x16mm	
117	0720 0060E	Retaining Ring - M6	
118	0313 0040W	Philips Pan Head Screw - M3x4	
119	0720 0025E	Retaining Ring - M2.5	
120	0632 0100G	Pin 2x10mm	
121	1105 0016	Nylon Clip - 4N	
122	0951 4006W	Philips Screw With Flat Washer - M4x6	
123	0314 0100W	Philips Pan Head Screw - M4x10	
125	0805 3145	Ball Bearing - 6x12x4mm	
126	1105 0108	Nylon Clip	
127	0633 0120E	Spring Pin - M3x12	
128	0313 0080W	Philips Pan Head Screw - M3x8	

4. DF MAIN BOARD (A418)

CAPACITOR

SYMBOL NO.	INDEX NO.
C101	141
C102	149
C103	143
C104	178
C105	179
C106	150
C107	148
C108	146
C109	151
C110	151

SYMBOL NO.	INDEX NO.
C111	145
C112	144
C113	142
C114	143
C115	152
C116	152
C117	154
C118	154
C119	154
C120	154

SYMBOL NO.	INDEX NO.
C121	154
C122	154
C123	154
C124	154
C125	154
C126	154
C127	154
C128	154
C129	154
C130	154

SYMBOL NO.	INDEX NO.
C131	154
C132	154
C133	154
C134	154
C135	154
C136	154
C137	166
C138	154
C139	154
C140	154

SYMBOL NO.	INDEX NO.
C141	154
C142	154
C143	154
C144	154
C145	154
C146	154
C147	180
C148	154
C149	154
C150	154

SYMBOL NO.	INDEX NO.
C151	180

DIP SWITCH

SYMBOL NO.	INDEX NO.
DIP101	112

VARIABLE RESISTOR

SYMBOL NO.	INDEX NO.
VR101	136
VR102	136
VR103	137
VR104	139
VR105	139
VR106	138

CONNECTOR

SYMBOL NO.	INDEX NO.
CN101	103
CN102	102
CN103	104
CN104	107
CN105	105
CN106	4

FUSE

SYMBOL NO.	INDEX NO.
FU101	111
	110
FU102	182
	110

RESISTOR ARRAY

SYMBOL NO.	INDEX NO.
RAY101	135

IC

SYMBOL NO.	INDEX NO.
IC101	176
IC102	116
IC102	5
IC103	175
IC104	7
IC105	121
IC106	6
IC106	109
IC107	174
IC108	129

SYMBOL NO.	INDEX NO.
IC109	123
IC110	120
IC111	129
IC112	124
IC113	125
IC114	127
IC115	129
IC116	128
IC117	119

RESISTOR

SYMBOL NO.	INDEX NO.
R101	161
R102	177
R103	169
R104	133
R105	167
R106	169
R107	172
R108	134
R109	167
R110	170

SYMBOL NO.	INDEX NO.
R111	134
R112	171
R113	173
R114	168
R115	155
R116	161
R117	164
R118	155
R119	161
R120	161

SYMBOL NO.	INDEX NO.
R121	161
R122	161
R123	160
R124	160
R125	160
R126	160
R127	164
R128	164
R129	164
R130	164

SYMBOL NO.	INDEX NO.
R131	156
R132	158
R133	158
R134	158
R135	158
R136	163
R137	163
R138	161
R139	161
R140	161

SYMBOL NO.	INDEX NO.
R141	165
R142	161
R143	161
R144	161
R145	161
R146	161
R147	161
R148	161
R149	161
R150	161

SYMBOL NO.	INDEX NO.
R151	161
R152	161
R153	163
R154	163
R155	158
R156	158
R157	161
R158	161
R159	161
R160	161

SYMBOL NO.	INDEX NO.
R161	161
R162	161
R163	161
R164	157
R165	161
R166	161
R167	161
R168	161
R169	161
R170	157

SYMBOL NO.	INDEX NO.
R171	157
R172	157
R173	157
R174	157
R175	161
R176	161
R177	157
R178	157
R179	157
R180	157

SYMBOL NO.	INDEX NO.
R181	161
R182	157
R183	157
R184	157
R185	157
R186	165
R187	165
R188	165
R189	165
R190	181

SYMBOL NO.	INDEX NO.
R191	161
R192	159

SWITCH

SYMBOL NO.	INDEX NO.
SW101	113
SW102	113

LED

SYMBOL NO.	INDEX NO.
LED101	118
LED102	118
LED103	118
LED104	118
LED105	118
LED106	118

TEST POINT

SYMBOL NO.	INDEX NO.
TP101	101
TP102	101
TP103	101
TP104	101
TP105	101
TP107	101

DIODE

SYMBOL NO.	INDEX NO.
D101	
D102	117
D103	117
D104	117
D105	117

NOISE FILTER

SYMBOL NO.	INDEX NO.
NF101	140

OSCILLATOR

SYMBOL NO.	INDEX NO.
OSC101	130

TRANSISTOR

SYMBOL NO.	INDEX NO.
Q101	114
Q102	115

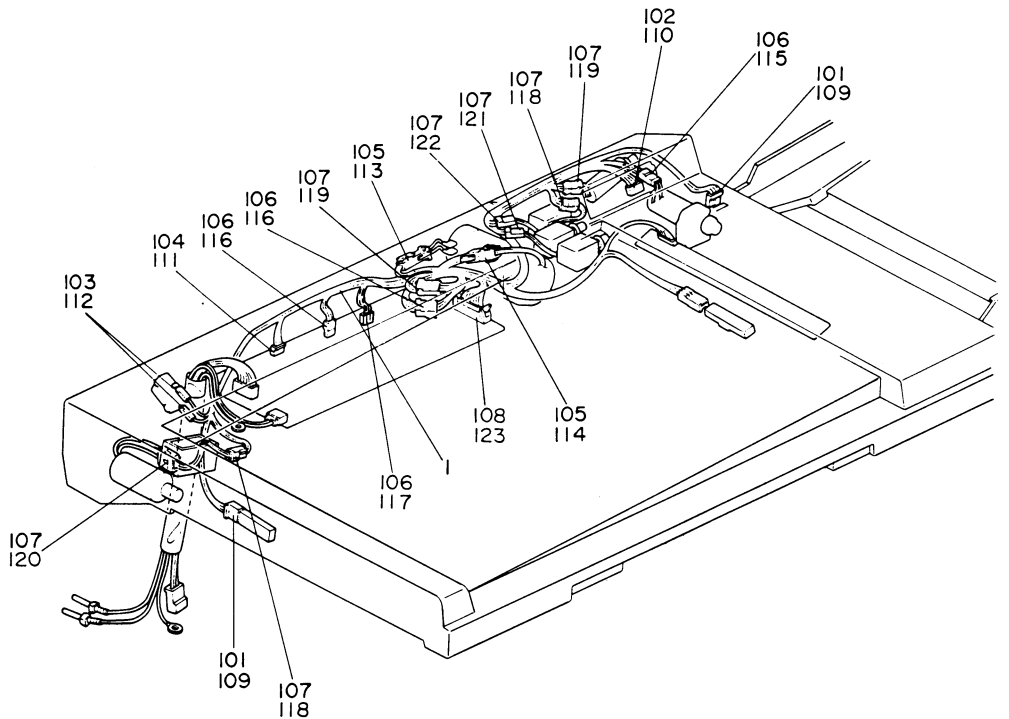
4. DF MAIN BOARD (A418)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A418 5615	DF Main Board	1
4	A409 5710	Fiber Connector	1
5	5936 5221	Heat Sink	1
6	A418 5618	IC - MBM2764-30	1
7	A422 5350	IC - HCTL-3	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1101 0328	Connector Pin Contact	
102	1102 0958	Connector - 2P	
103	1103 0881	Connector - 4P	
104	1103 1726	Connector - 4P	
105	1103 1728	Connector - 6P	
106	1103 1878	Connector - 2P	
107	1103 3023	Connector - 34P	
108	1103 3029	Connector - 2P	
109	1104 0271	LSI Socket - 42P	
110	1104 0333	Fuse Holder	
111	1107 0413	Fuse - 3A	
112	1204 0883	DIP Switch	
113	1204 1385	Push Switch	
114	1400 0100	Transistor - 2SA683	
115	1401 0282	Transistor - 2SB20	
116	1401 0329	IC - MP4503	
118	1403 0308	LED - TLR-102A	
119	1403 0388	Photocoupler - ON3111	
120	1407 0604	IC - TC4049BP	
121	1407 1026	IC - SN74LS373N	
123	1407 1334	IC - UPD7810G	
124	1407 1348	IC - TD62304P	
125	1407 1535	IC - TD62308AP	
127	1408 0408	IC - PST518A	
128	1408 0521	IC - M51971L	
129	1408 0578	IC - HA17339	
130	1503 0070	Ceramic Oscillator - 10MHz	
133	1600 0681	Resistor - 510OHM ± 5% 1W	
134	1601 1732	Resistor - 390OHM 1W	
135	1601 7326	Resistor Array - 10KOHM	
136	1601 8145	Variable Resistor - 5KOHM	
137	1601 8147	Variable Resistor - 10KOHM 0.5W	
138	1601 8148	Variable Resistor - 20KOHM	
139	1601 8157	Variable Resistor - 100KOHM	
140	1602 0953	Coil - 800µH 2.5A	

Index No.	Part No.	Description	Q'ty Per Assembly
141	1604 1358	Capacitor - 1000µF 10V	
142	1604 1378	Capacitor - 1µF 50V	
143	1604 1379	Capacitor - 2.2µF 50V	
144	1604 1380	Capacitor - 3.3µF 50V	
145	1604 1381	Capacitor - 4.7µF 50V	
149	1604 1390	Capacitor - 1000µF 50V	
150	1606 0658	Capacitor - 0.1µF 50V	
151	1606 1184	Capacitor - 27PF 50V	
152	1606 1348	Capacitor - 0.022µF 50V	
154	1606 1452	Capacitor - 0.01µF 50V	
155	1610 0035	Resistor - 100OHM 1/8W ±5%	
156	1610 0047	Resistor - 330OHM 1/8W ±5%	
158	1610 0057	Resistor - 1.5KOHM 1/8W ±5%	
159	1610 0061	Resistor - 2.2KOHM 1/8W ±5%	
160	1610 0065	Resistor - 3.3KOHM 1/8W ±5%	
161	1610 0067	Resistor - 4.7KOHM 1/8W ±5%	
163	1610 0071	Resistor - 10KOHM ±5%	
164	1610 0079	Resistor - 22KOHM 1/8W ±5%	
165	1610 0107	Resistor - 1MOHM 1/8W ±5%	
166	1610 0286	Capacitor - 100PF 50V ± 5%	
167	1611 4103	Resistor - 10KOHM 1/4T ±5%	
168	1611 4229	Resistor - 2.2OHM 1/4W ± 5%	
169	1611 4272	Resistor - 2.7KOHM 1/4T ±5%	
170	1611 4330	Resistor - 330OHM 1/4T ±5%	
171	1611 4393	Resistor - 39KOHM 1/4T ±5%	
172	1611 4472	Resistor - 4.7KOHM 1/4T ±5%	
173	1611 4563	Resistor - 56KOHM 1/4T ±5%	
174	1407 0602	IC - TC4040BP	
175	1408 0538	IC - SI8301L	
176	1408 0654	IC - SI8203L	
177	1600 0239	Resistor - 0.47OHM 1/8W ±5%	
178	1604 1359	Capacitor - 220µF 10V	
179	1604 1389	Capacitor - 470µF 50V	
180	1605 0141	Capacitor - 4700PF 50V	
181	1610 0073	Resistor - 12KOHM 1/8W ±5%	

Index No.	Part No.	Description	Q'ty Per Assembly
182	1107 0409	Fuse 1A	


102
110
106
115
107
119
101
109
107
118
107
121
107
122
105
113
107
119
106
116
106
116
104
111
103
112
108
123
105
114
1
106
117
107
120
101
109
107
118

5. DF HARNESS (A418)

August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
1	A418 5811	DF Main Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1089	Socket - Mate-N-Lock	
102	1100 1147	Socket - Mate-N-Lock	
103	1100 1169	Fastening Receptacle	
104	1100 1190	Socket - Mate-N-Lock	
105	1100 1240	Socket - Mate-N-Lock	
106	1100 1327	Contact	
107	1100 1328	Contact	
108	1100 1348	Pin Contact	
109	1102 1089	Connector - 3P	
110	1102 1291	Connector - 8P	
111	1102 1350	Connector - 5239-2P	
112	1102 1408	Receptacle Housing	
113	1102 1515	Connector - 2P	
114	1102 1517	Connector - 4P	
115	1102 1910	Connector - 2P	
116	1102 1912	Connector - 4P	
117	1102 1914	Connector - 6P	
118	1102 1964	Connector - 2P	
119	1102 1965	Connector - 3P	
120	1102 1966	Connector - 4P	
121	1102 1970	Connector - 2P	
122	1102 1971	Connector - 3P	
123	1103 0659	Connector - 34P	

PARTS INDEX

Parts No.	Description	Page and Index No.
A418 1055	Middle Drive Shaft	9-10
A418 1125	Belt Unit Stopper	9-92
A418 1129	Harness Cover	9-87
A418 1139	Left Frame	9-78
A418 1140	Exit Guide Plate	9-44
A418 1141	Motor Bracket	9-15
A418 1142	Front Side Plate - Exit Drive	9-6
A418 1144	Bracke Switch Bracket	5-6
A418 1145	Collar - M6	9-17
A418 1146	Rubber Bushing - M6	9-18
A418 1147	Seal - M10x1	9-45
A418 1148	Belt Tightener	9-82
A418 1153	Spring - Flip Scale	5-47
A418 1154	Grip Plate	5-10
A418 1158	Spacer - M6.5x1	9-16
A418 1159	Spacer - M4.5x1	7-32
A418 1160	DF Harness Bracket	5-27
A418 1163	Idle Roller	9-72
A418 1164	Mylar Seal 15x12x0.1	9-90
A418 1180	Original Exit Guide	5-15
A418 1185	Austatics Brush	5-48
A418 1186	Grouding Plate	9-88
A418 1230	DF Cover	5-4
A418 1231	Left Supporter	5-8
A418 1232	Right Supporter	5-9
A418 1234	Display Panel	5-3
A418 1236	Glip - Cover	5-12
A418 1237	Display Board Bracket	5-23
A418 1240	Cushion 21x20x2	9-89
A418 1241	Display Panel Bracket	5-54
A418 1251	Original Table Guide	5-24
A418 1252	Original Table Cover	5-43
A418 1253	Front Original Guide	5-31
A418 1254	Rear Original Guide	5-29
A418 1255	Original Table Extender	5-41

Parts No.	Description	Page and Index No.
A418 1260	Cork Pad	5-33
A418 1261	Front Table Bracket	5-40
A418 1262	Rear Table Bracket	5-39
A418 1270	Right Hinge	5-21
A418 1271	Right Hinge Spring - Outer	5-49
A418 1272	Right Hinge Spring - Inner	5-50
A418 1290	Left Hinge	5-20
A418 1291	Left Hinge Spring	5-51
A418 1295	Lift Switch Actuator Plate	5-19
A418 1300	Interface Harness Bracket	5-28
A418 1307	DF Fixing Plate	5-18
A418 1801	Decal - Misfeed Removal	5-44
A418 1805	Decal Jan Removal	5-44
A418 2102	Front Adjusting Plate	7-75
A418 2103	Rear Adjusting Plate	7-76
A418 2226	Rubber Seal - 10x10x3	7-72
A418 2230	Front Feed-in Guide	7-9
A418 2231	Rear Feed-in Guide	7-22
A418 3117	Glip Scale - LT/LDG	5-14
A418 3127	Flip Scale - A3/A4	5-14
A418 3217	Original Feed Table - LT/LDG	5-30
A418 3227	Original Feed Table - A3/A4	5-30
A418 3253	Spring - Inverter Guide Plate	9-93
A418 4002	Decal - DIP Switch	5-45
A418 5615	DF Main Board	11-*
A418 5615	DF Main Board	5-1
A418 5618	IC - MBM2764-30	11-6
A418 5621	Display Board	5-22
A418 5701	Fiber Connector	5-53
A418 5804	Interface Harness	5-2
A418 5807	Fiber Optics Harness	5-52
A418 5811	DF Main Harness	13-1
A418 5811	Main Harness	9-19
A418 5821	Grounding Wire	9-57
A418 8610	Installation Procedure - English	5-*

Parts No.	Description	Page and Index No.
A418 8615	Installation Procedure - 5 Language	5-*
A418 9001	Turn Roller Ring (8pcs/set)	9-67

Parts No.	Description	Page and Index No.
A409 1133	Front Frame	9-58
A409 1138	Exit Roller Bracket	9-84
A409 1139	Clamp - Discharge Brush	9-85
A409 1142	Turn Roller Shaft	9-65
A409 1143	Pulley - 50T	9-23
A409 1147	Idle Roller Arm	9-75
A409 1149	Guide Plate - Inverter	9-71
A409 1150	Spring Anchor	9-56
A409 1152	Inverter Gate	9-70
A409 1153	Spring - Inverter Guide Plate	9-35
A409 1154	Bracket - Inverter Gate Solenoid	9-34
A409 1156	Spring - Lever - Reverse	9-86
A409 1161	Pulley - 21T	9-14
A409 1162	Collar - Inverter Solenoid	9-68
A409 1191	Timing Belt - 83mm	9-8
A409 1192	Pulley - 15T	9-7
A409 1195	Exit Drive Shaft	9-5
A409 1197	Spacer - 10x16x1.6mm	9-3
A409 1198	Rear Side Plate - Exit Drive	9-1
A409 1201	Gear - 46T	9-4
A409 1234	Exit Motor - DC 9W	9-2
A409 5511	Inverter Solenoid	9-37
A409 5710	Fiber Connector	11-4
A411 2531	Knob Cap	7-57
A419 1120	Original Feed Belt	9-46
A419 2726	Rack - Front Original Guide	5-38
A419 2728	Rack - Rear Original Guide	5-37
A419 3355	Right Frame	7-48
A419 3877	Shoulder Screw - Scale	5-16
A422 5350	IC - HCTL-3	11-7
5053 0223	Bushing - 8mm	7-18
5053 0447	Bushing - 6mm	7-15
5053 0447	Bushing - 6mm	9-79
5056 0509	Nut Plate - Micro Switch	5-5
5201 2832	Feed Clutch Spring	7-61

Parts No.	Description	Page and Index No.
5215 5230	Photointerrupter - L-Type	9-42
5403 2049	Spring Anchor	7-56
5408 3253	Spring - Detent Arm	9-25
5413 1875	Knob Screw	7-66
5413 1882	Step Screw	9-74
5413 2298	Stepped Screw - M4	7-55
5413 2298	Stepped Screw - M4	9-61
5443 2657	Gear - 28T	5-34
5443 2660	Spacer - 6x22x0.5mm	5-36
5443 2713	Wave Washer	5-35
5446 2824	Screw - Duplex Guide Plate	7-27
5446 2824	Screw - Duplex Guide Plate	9-77
5446 6365	Spring - Discharge Roller	9-76
5447 2681	Snap Ring	7-10
5875 1540	Shaft - Floating Roller	9-53
5875 5501	Sensor Pad	7-68
5875 5510	Shoulder Screw - M5	5-17
5886 3114	Roller Cover	5-26
5894 2163	Center Roller	7-20
5894 2171	Original Feed Roller	7-12
5894 2174	Timing Belt	7-14
5894 2176	Spring - Detent Arm	7-26
5894 2181	Upper Separation Roller	7-8
5894 2183	Lower Separation Roller	7-53
5894 2186	Separation Roller Pulley	7-17
5894 2229	Solenoid Pin	7-29
5894 2229	Solenoid Pin	9-28
5894 2264	Collar	7-51
5894 2293	Spring - Original Stopper	7-43
5894 2412	Roller	7-70
5894 2413	Relay Roller Shaft	7-71
5894 2747	Mylar - Original Guides	5-32
5918 1556	Belt Stay	9-48
5918 2101	Separation Roller Shaft	7-52
5918 2103	Eccentric Cam Shaft	7-54

Parts No.	Description	Page and Index No.
5918 2105	Eccentric Cam	7-39
5918 2106	One Way Bearing Lever	7-45
5918 2108	Adjusting Plate	7-60
5918 2150	Feed-in Stopper	7-47
5918 2155	Registration Roller	7-1
5918 2156	Gear - 24T	7-40
5918 2158	Pulley - 25T	7-34
5918 2159	Gear - 24T	7-36
5918 2163	Clutch Spring	7-31
5918 2164	Clutch Sleeve	7-35
5918 2168	Release Lever Shaft	7-6
5918 2170	Front Release Lever	7-59
5918 2172	Rear Release Lever	7-7
5918 2210	Collar - 6mm	7-58
5918 2215	Pick-up Roller Bracket	7-19
5918 2220	Pick-up Roller Shaft	7-11
5918 2223	Pulley - 24T	7-13
5918 2224	Feed Roller Shaft	7-16
5918 2230	Gear - 45T	7-41
5918 2250	Sensor Actuator	7-46
5918 2252	Right Stay	7-50
5918 2260	Feed-in Sensor Feeler	7-49
5918 2270	Pulley - 15T	9-22
5918 2274	Timing Belt Tightener	9-40
5918 2285	Tightener Stud	9-41
5918 2289	Spring	9-36
5918 2295	Pulley - 79T	9-20
5918 2313	Pulley - 30T	9-13
5918 2314	Timing Belt - MM63	9-12
5918 2316	Timing Belt - P2M 208	9-21
5918 2317	Gear - 19T	9-11
5918 2318	Gear - 19T	9-83
5918 2324	Solenoid Bracket	9-26
5918 2325	Stopper Lever	9-29
5918 2327	Release Lever	9-38

Parts No.	Description	Page and Index No.
5918 2330	Clutch Lever	9-24
5918 2340	Release Arm	7-38
5918 2349	Feed-in Motor Ass'y - DC24V	9-31
5918 2355	Feed-in Motor Bracket	9-39
5918 2370	Pick-up Solenoid Bracket	7-30
5918 2371	Pick-up Lever	7-25
5918 2372	Stopper Lever	7-33
5918 2372	Stopper Lever	9-33
5918 2373	Stopper Bracket	7-28
5918 2375	Pick-up Control Shaft	7-21
5918 2380	Sensor Bracket	9-43
5918 2385	Harness Bracket Ass'y	9-30
5918 2520	Upper Feed-in Guide	7-5
5918 2610	Lower Feed-in Guide	7-62
5918 2615	Spring Plate	7-64
5918 2616	Middle Spring Plate	7-65
5918 2621	Entrance Guide	7-67
5918 2623	Paper Guide Mylar	7-69
5918 2623	Paper Guide Mylar	9-91
5918 2624	Seal - 12x17x0.7mm	7-63
5918 2725	Mylar - Feed-in	5-25
5918 2770	Extender Spring Plate	5-42
5918 2781	Decal - Feed-in	7-42
5918 3007	Belt Unit Holder - A	9-60
5918 3040	Shoulder Screw - M4	5-46
5918 3092	Belt Unit Holder - B	9-63
5918 3125	Stud - M4	9-55
5918 3365	Belt Release Bracket	9-62
5918 3369	Belt Drive Roller	9-47
5918 3370	Belt Roller	9-64
5918 3380	Spring - Floating Roller	9-52
5918 3381	Floating Roller	9-50
5918 3382	Belt Stopper	9-49
5918 3383	Holder - Floating Roller	9-51
5918 3385	Belt Unit Stay	9-54

Parts No.	Description	Page and Index No.
5918 3394	Seal - 15x30mm	5-13
5918 3395	Front Belt Unit Plate	9-59
5918 3536	Exit Roller	9-69
5918 3562	Antistatic Brush	9-73
5918 3585	Upper Exit Roller	9-80
5918 5501	Stopper Solenoid	7-23
5918 5515	Pick-up Solenoid	7-24
5918 5516	Release Solenoid	9-32
5918 5525	Registration Solenoid	9-27
5918 5631	Paper Suze Sensor	7-2
5918 5722	Photosensor	7-3
5918 5722	Photosensor	9-81
5918 5821	Registration Sensor Harness	7-4
5936 2480	Magnetic Catch Ass'y	5-11
5936 2542	Turn Pulley	9-66
5936 5221	Heat Sink	11-5
5936 5501	Transport Drive Motor - DC 21W	9-9

Parts No.	Description	Page and Index No.
0313 0040W	Philips Pan Head Screw - M3x4	7-110
0313 0040W	Philips Pan Head Screw - M3x4	9-118
0313 0060W	Philips Pan Head Screw - M3x6	7-109
0313 0060W	Philips Pan Head Screw - M3x6	9-101
0313 0080W	Philips Pan Head Screw - M3x8	9-128
0313 0160W	Philips Pan Head Screw - M3x16	5-109
0314 0040W	Philips Pan Head Screw - M4x4	9-105
0314 0060W	Philips Pan Head Screw - M4x6	5-102
0314 0060W	Philips Pan Head Screw - M4x6	7-108
0314 0060W	Philips Pan Head Screw - M4x6	9-113
0314 0080M	Philips Pan Head Screw - M4x8	5-108
0314 0100W	Philips Pan Head Screw - M4x10	5-104
0314 0100W	Philips Pan Head Screw - M4x10	9-123
0315 0100W	Philips Pan Head Screw - M5x10	5-105
0324 0120W	Philips Sunken Head Screw - M4x12	5-103
0344 0060D	Philips Truss Head Screw - M4x6	5-101
0434 0060W	Tapping Screw - M4x6	5-112
0434 0080W	Tapping Screw - M4x8	5-107
0574 0040E	Hexagon Headless Set Screw - M4x4	7-112
0574 0040E	Hexagon Headless Set Screw - M4x4	7-116
0574 0040E	Hexagon Headless Set Screw - M4x4	9-114
0632 0100E	Pin - 2x10mm	7-103
0632 0100E	Pin - 2x10mm	9-103
0632 0100G	Pin 2x10mm	9-120
0633 0120E	Spring Pin - M3x12	9-127
0633 0160E	Pin - 3x16mm	9-115
0720 0025E	Retaining Ring - M2.5	7-107
0720 0025E	Retaining Ring - M2.5	7-111
0720 0025E	Retaining Ring - M2.5	9-119
0720 0030E	Retaining Ring - M3	7-105
0720 0030E	Retaining Ring - M3	9-106
0720 0040E	Retaining Ring - M4	5-110
0720 0040E	Retaining Ring - M4	7-113
0720 0040E	Retaining Ring - M4	9-108
0720 0050E	Retaining Ring - M5	7-106

Parts No.	Description	Page and Index No.
0720 0050E	Retaining Ring - M5	9-107
0720 0060E	Retaining Ring - M6	7-104
0720 0060E	Retaining Ring - M6	9-117
0720 0070E	Retaining Ring - M7	7-117
0720 0070W	Retaining Ring - M7	9-111
0741 3505	Ball Bearing - 5x10x4mm	9-104
0741 3506	Ball Bearing - 6x12x4mm	9-110
0742 3808	Ball Bearing - 8x16mm	9-116
0742 3905	Ball Bearing - 5x13x4mm	9-102
0805 3145	Ball Bearing - 6x12x4mm	7-115
0805 3145	Ball Bearing - 6x12x4mm	9-125
0805 3291	Ball Bearing - 8x16x5mm	9-112
0951 4006W	Philips Screw With Flat Washer - M4x6	9-122
0951 4010W	Philips Screw With Flat Washer - M4x10	5-106
0965 3010W	Tapping Screw With Flat Washer - M3x10	7-101
0965 4006W	Tapping Screw - M4x6	7-102
0965 4008W	Tapping Screw With Flat Washer - M4x8	7-118
1100 1089	Socket - Mate-N-Lock	13-101
1100 1147	Socket - Mate-N-Lock	13-102
1100 1169	Fastening Receptacle	13-103
1100 1190	Socket - Mate-N-Lock	13-104
1100 1240	Socket - Mate-N-Lock	13-105
1100 1327	Contact	13-106
1100 1328	Contact	13-107
1100 1348	Pin Contact	13-108
1101 0328	Connector Pin Contact	11-101
1102 0958	Connector - 2P	11-102
1102 1089	Connector - 3P	13-109
1102 1291	Connector - 8P	13-110
1102 1350	Connector - 5239-2P	13-111
1102 1408	Receptacle Housing	13-112
1102 1515	Connector - 2P	13-113
1102 1517	Connector - 4P	13-114
1102 1910	Connector - 2P	13-115
1102 1912	Connector - 4P	13-116

Parts No.	Description	Page and Index No.
1102 1914	Connector - 6P	13-117
1102 1964	Connector - 2P	13-118
1102 1965	Connector - 3P	13-119
1102 1966	Connector - 4P	13-120
1102 1970	Connector - 2P	13-121
1102 1971	Connector - 3P	13-122
1103 0659	Connector - 34P	13-123
1103 0881	Connector - 4P	11-103
1103 1726	Connector - 4P	11-104
1103 1728	Connector - 6P	11-105
1103 1878	Connector - 2P	11-106
1103 3023	Connector - 34P	11-107
1103 3029	Connector - 2P	11-108
1104 0271	LSI Socket - 42P	11-109
1104 0333	Fuse Holder	11-110
1105 0005	Nylon Clip - 3N	7-114
1105 0016	Nylon Clip - 4N	9-121
1105 0087	Clamp	9-109
1105 0108	Nylon Clip	9-126
1106 0134	Universal Bushing - 2.4mm	5-111
1107 0409	Fuse 1A	11-182
1107 0413	Fuse - 3A	11-111
1204 0883	DIP Switch	11-112
1204 1319	Micro Switch	5-7
1204 1385	Push Switch	11-113
1400 0100	Transistor - 2SA683	11-114
1401 0282	Transistor - 2SB20	11-115
1401 0329	IC - MP4503	11-116
1403 0308	LED - TLR-102A	11-118
1403 0388	Photocoupler - ON3111	11-119
1407 0602	IC - TC4040BP	11-174
1407 0604	IC - TC4049BP	11-120
1407 1026	IC - SN74LS373N	11-121
1407 1334	IC - UPD7810G	11-123
1407 1348	IC - TD62304P	11-124

Parts No.	Description	Page and Index No.
1407 1535	IC - TD62308AP	11-125
1408 0408	IC - PST518A	11-127
1408 0521	IC - M51971L	11-128
1408 0538	IC - SI8301L	11-175
1408 0578	IC - HA17339	11-129
1408 0654	IC - SI8203L	11-176
1503 0070	Ceramic Oscillator - 10MHz	11-130
1600 0239	Resistor - 0.47OHM 1/8W ±5%	11-177
1600 0681	Resistor - 510OHM ± 5% 1W	11-133
1601 1732	Resistor - 390OHM 1W	11-134
1601 7326	Resistor Array - 10KOHM	11-135
1601 8145	Variable Resistor - 5KOHM	11-136
1601 8147	Variable Resistor - 10KOHM 0.5W	11-137
1601 8148	Variable Resistor - 20KOHM	11-138
1601 8157	Variable Resistor - 100KOHM	11-139
1602 0953	Coil - 800µH 2.5A	11-140
1604 1358	Capacitor - 1000µF 10V	11-141
1604 1359	Capacitor - 220µF 10V	11-178
1604 1378	Capacitor - 1µF 50V	11-142
1604 1379	Capacitor - 2.2µF 50V	11-143
1604 1380	Capacitor - 3.3µF 50V	11-144
1604 1381	Capacitor - 4.7µF 50V	11-145
1604 1389	Capacitor - 470µF 50V	11-179
1604 1390	Capacitor - 1000µF 50V	11-149
1605 0141	Capacitor - 4700PF 50V	11-180
1606 0658	Capacitor - 0.1µF 50V	11-150
1606 1184	Capacitor - 27PF 50V	11-151
1606 1348	Capacitor - 0.022µF 50V	11-152
1606 1452	Capacitor - 0.01µF 50V	11-154
1610 0035	Resistor - 100OHM 1/8W ±5%	11-155
1610 0047	Resistor - 330OHM 1/8W ±5%	11-156
1610 0057	Resistor - 1.5KOHM 1/8W ±5%	11-158
1610 0061	Resistor - 2.2KOHM 1/8W ±5%	11-159
1610 0065	Resistor - 3.3KOHM 1/8W ±5%	11-160
1610 0067	Resistor - 4.7KOHM 1/8W ±5%	11-161

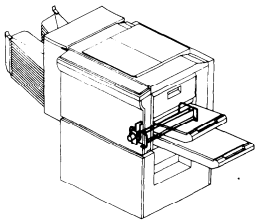
Parts No.	Description	Page and Index No.
1610 0071	Resistor - 10KOHM ±5%	11-163
1610 0073	Resistor - 12KOHM 1/8W ±5%	11-181
1610 0079	Resistor - 22KOHM 1/8W ±5%	11-164
1610 0107	Resistor - 1MOHM 1/8W ±5%	11-165
1610 0286	Capacitor - 100PF 50V ± 5%	11-166
1611 4103	Resistor - 10KOHM 1/4T ±5%	11-167
1611 4229	Resistor - 2.2OHM 1/4W ± 5%	11-168
1611 4272	Resistor - 2.7KOHM 1/4T ±5%	11-169
1611 4330	Resistor - 330OHM 1/4T ±5%	11-170
1611 4393	Resistor - 39KOHM 1/4T ±5%	11-171
1611 4472	Resistor - 4.7KOHM 1/4T ±5%	11-172
1611 4563	Resistor - 56KOHM 1/4T ±5%	11-173

Parts No.	Description	Page and Index No.

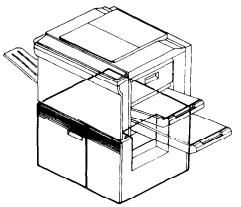
PS220 (A420)

Location of Unit 3
1. Vertical Transport (A420) 4
2. Exterior (A420) 6
3. Paper Feed Section (A420) 8
4. 3rd Paper Feed Section (A420) 10
5. 4th Paper Feed Section (A420) 12
6. Print Board – Paper Bank (A420) 14
7. Harness Layout (A420) 16
8. Vertical Transport Harness (A420) 18
9. Front Paper Bank Harness (A420) 20
10. Main Paper Bank Harness (A420) 22
11. Rear Paper Bank Harness (A420) 24
12. Decal (A420) 26
Parts Index 29

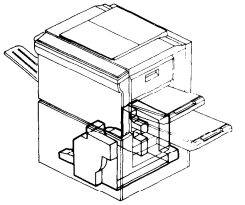
1. VERTICAL TRANSPORT



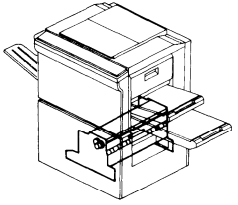
2. EXTERIOR



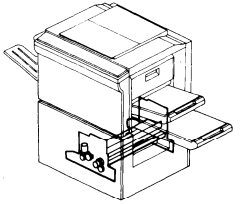
3. PAPER FEED SECTION



4. 3RD PAPER FEED SECTION

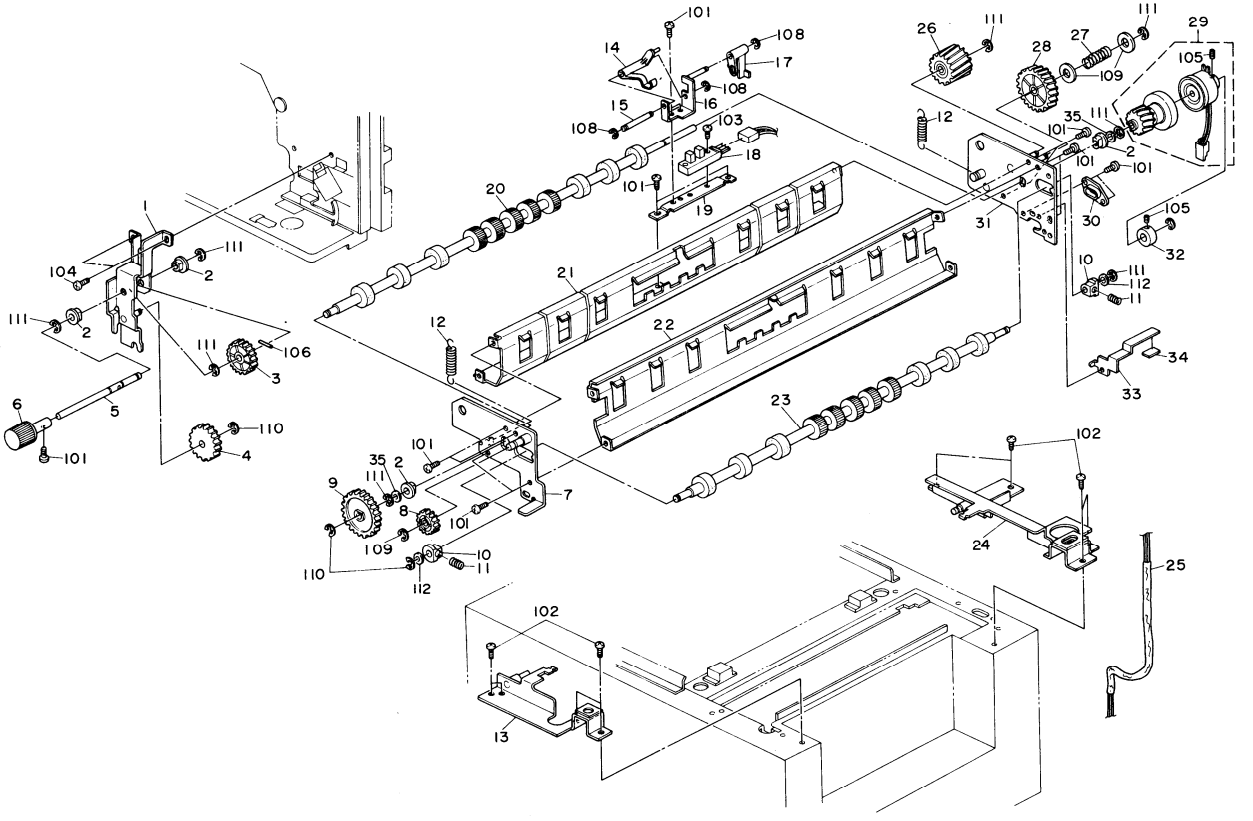


5. 4TH PAPER FEED SECTION



1. VERTICAL TRANSPORT (A420)

August 31, '89

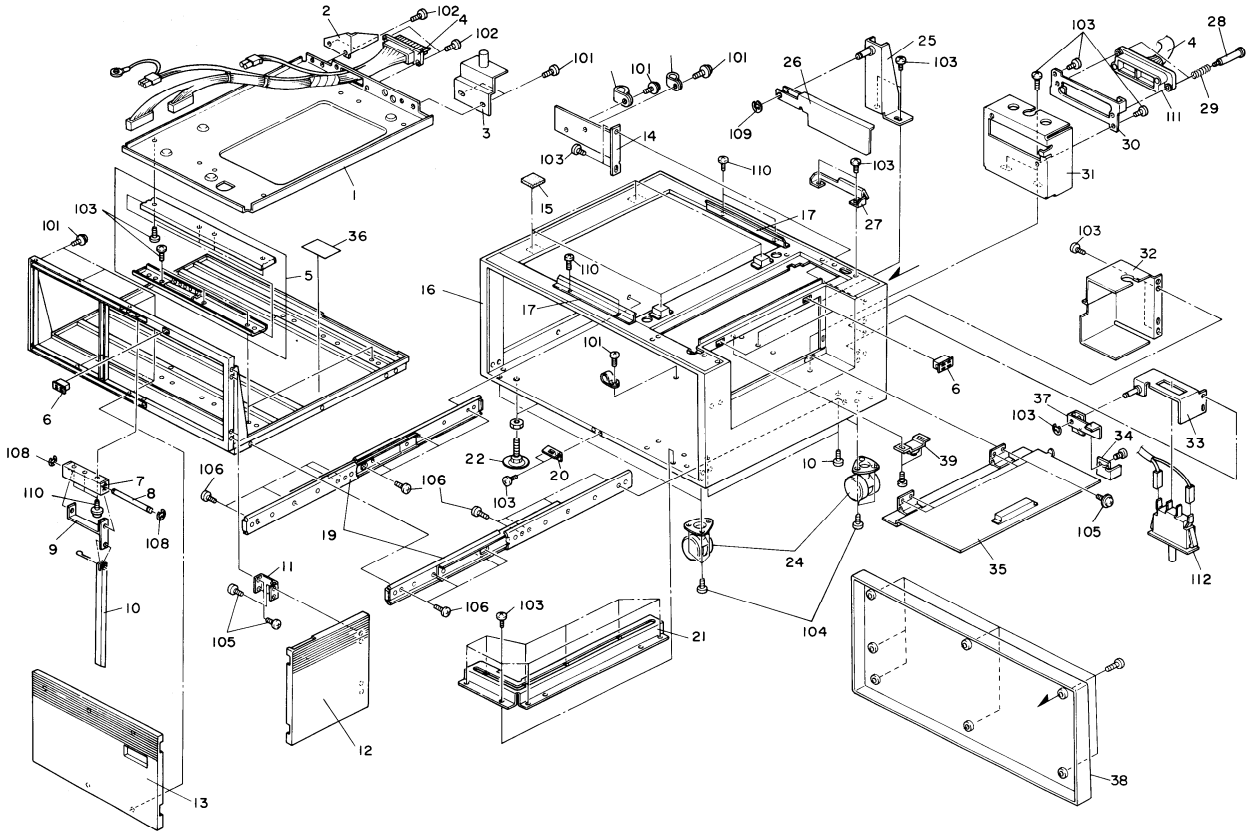


1. VERTICAL TRANSPORT (A420)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A420 4110	Transport Knob Bracket	1
2	0805 3039	Ball Bearing - 8x16x5mm	2
3	A420 4113	Gear - 26T	1
4	A420 4116	Gear - 30T	1
5	A420 4114	Knob Shaft	1
6	A420 4115	Transport Roller Knob	1
7	A420 2709	Front Side Fence - Transport	1
8	A420 2785	Gear - 18T	1
9	A420 2761	Gear - 38T	1
10	A420 2378	Bushing	2
11	5205 2693	Relay Roller Spring	2
12	A420 2762	Transport Bracket Spring	2
13	A420 2770	Front Transport Bracket	1
14	A420 2741	Paper Sensor Feeler	1
15	A420 2742	Feeler Shaft - Paper Sensor	1
16	A420 2735	Feeler Bracket	1
17	A420 2743	Upper Shutter - Paper Sensor	1
18	5205 5251	LED Sensor Type - T	1
19	A420 2732	Transport Sensor Bracket	1
20	A420 2755	Upper Drive Relay Roller	1
21	A420 2733	Left Guide Plate - Transport	1
22	A420 2752	Right Guide Plate - Transport	1
23	A420 2756	Upper Relay Roller	1
24	A420 2780	Rear Transport Bracket	1
25	A420 5273	Vertical Transport Harness	1
26	AB01 3097	Gear - 20T	1
27	A420 2767	Idle Gear Spring	1
28	AB01 3094	Idle Gear - 36T	1
29	AX20 0016	Magnetic Clutch - Vertical Transport	1
30	A420 2726	Rear Side Fence Cap - Transport	1
31	A420 2719	Rear Side Fence - Transport	1
32	5205 2866	Magnetic Clutch Collar	1
33	A420 2766	Magnetic Clutch Stopper	1
34	A420 2563	Rubber - Magnetic Clutch Stopper	1
35	AA13 2025	Spacer - 1x8x12mm	3

Index No.	Part No.	Description	Q'ty Per Assembly
101	0314 0060W	Philips Pan Head Screw - M4x6	
102	0314 0080W	Philips Pan Head Screw - M4x8	
103	0314 0120W	Philips Pan Head Screw - M4x12	
104	0434 0080W	Tapping Screw - M4x8	
105	0554 0040E	Allen Screw - M4x4	
106	0633 0140B	Parallel Pin	
107	0700 0080	Washer	
108	0720 0030E	Retaining Ring - M3	
109	0720 0040E	Retaining Ring - M4	
110	0720 0050E	Retaining Ring - M5	
111	0720 0060E	Retaining Ring - M6	
112	0807 4116	Spacer - M6	

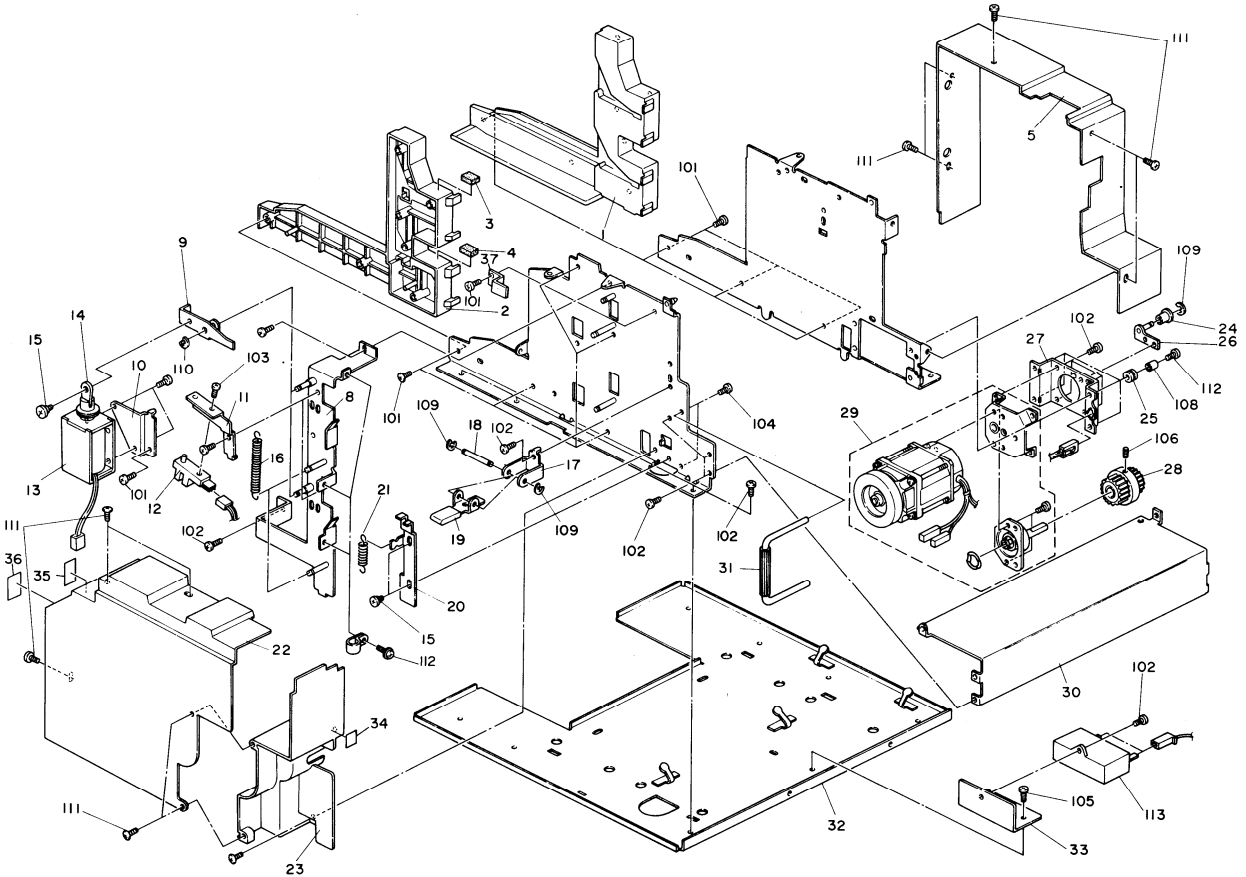
2. EXTERIOR (A420)



Index No.	Part No.	Description	Q'ty Per Assembly
1	A420 3210	Base Plate	1
2	A420 3234	Connector Angle	1
3	A420 3250	Guide Holder Bracket	1
4	A420 5274	Main Paper Bank Harness	1
5	A420 3215	Slide Rail - Paper Bank	1
6	A420 3699	Magnet Catch Ass'y	3
7	A420 3753	Grip Guide	1
8	A420 3755	Grip Guide Shaft	1
9	A420 3754	Grip - Paper Feed Table	1
10	A420 3756	Grip Stopper	1
11	A420 3698	Front Table Hinge	1
12	A420 3670	Paper Bank Small Cover	1
13	A420 3675	Paper Bank Front Cover	1
14	A420 3246	Clamp Bracket	1
15	A420 3658	Paper Bank Cushion	4
16	A420 3635	Left Table Cover	1
17	A420 3653	Guide Bracket - Paper Bank	2
18	A420 3645	Rear Cover - Paper Bank	1
19	A420 3655	Frame Rail	2
20	A420 3654	Positioning Bracket	1
21	A420 3222	Bank Table Guide	1
22	5424 1064	Screw Stand	1
24	5415 1053	Caster	4
25	A420 3230	Sealed Plate Bracket	1
26	A420 3233	Connector Sealed Plate	1
27	A420 3247	Harness Guard Bracket	1
28	5446 5832	Connector Guide Pin	1
29	5424 2625	Connector Spring	1
30	A420 3227	Connector Bracket	1
31	A420 3226	Connector Cover Bracket	1
32	A420 3244	Safety Switch Cover	1
33	A420 3240	Safety Switch Bracket	1
34	A420 3261	Safety Switch Joint	1
35	A420 3625	Paper Bank Door	1
36	A019 6354	Decal - Reset	1
37	A420 3262	Joint - Safety Switch	1
38	A420 3721	Rear Cover	1
39	A420 4117	Stopper Guide	1
101	0314 0060W	Philips Pan Head Screw - M4x6	
102	0801 1185	Philips Truss Head Screw - M4x8	
103	0314 0080W	Philips Pan Head Screw - M4x8	
104	0315 0080W	Philips Pan Head Screw - M5x8	
105	0343 0060Z	Philips Pan Head Screw - M3x6	
106	0344 0060Z	Philips Truss Head Screw - M4x6	
107	0720 0040E	Retaining Ring - M4	
108	0720 0050E	Retaining Ring - M5	
109	0720 0060E	Retaining Ring - M6	
110	0951 4060	Philips Screw With Flat Washer - M4x6	
111	1102 2481	Connector - 32P	
112	1204 1280	Push Switch	

3. PAPER FEED SECTION (A420)

August 31, '89

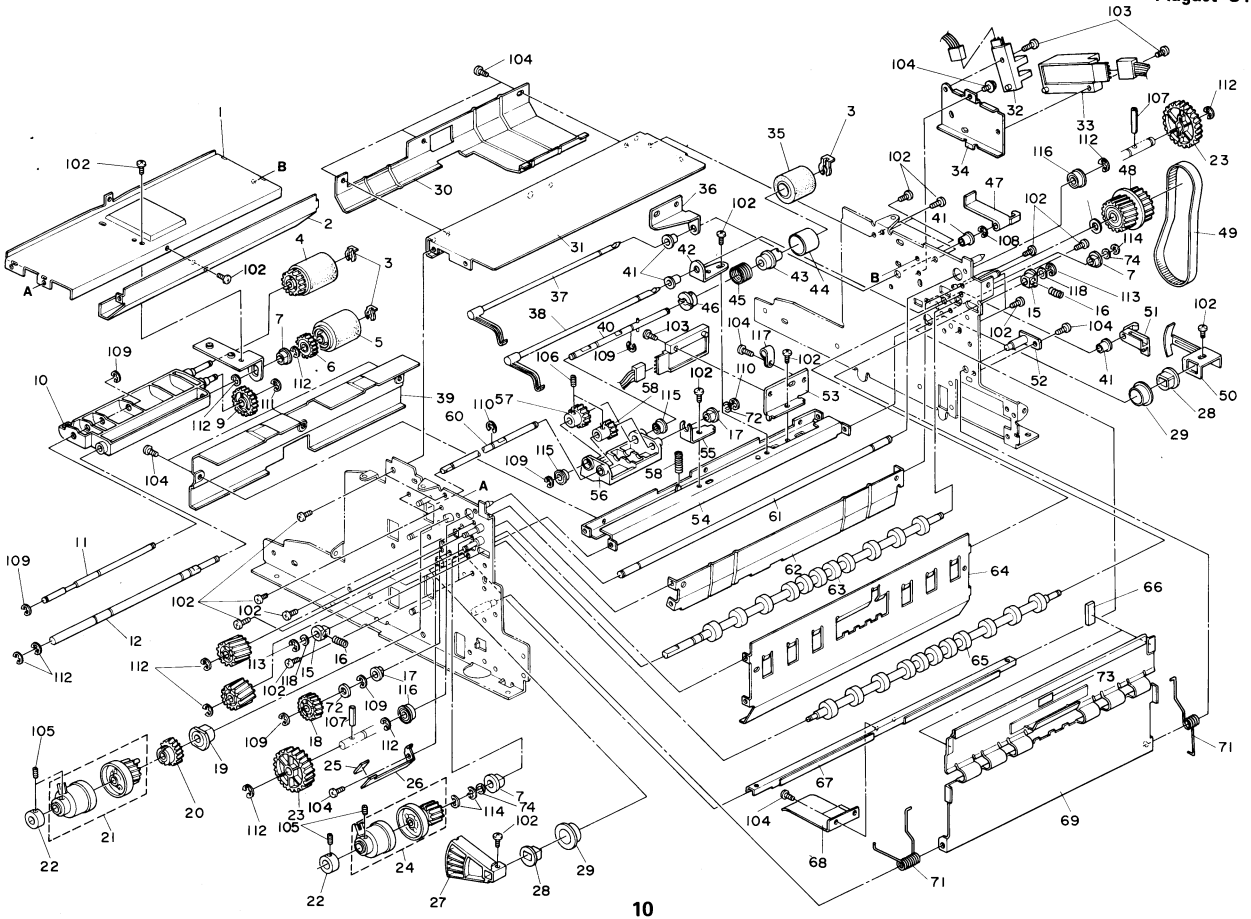


3. PAPER FEED SECTION (A420)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A420 2121	Rear Guide Cover - Receiving Cassette	1
2	A420 2111	Front Guide Cover - Receiving Cassette	1
3	A007 2877	Cushion - Upper Pick-off Bracket	1
4	A007 2878	Cushion - Lower Pick-off Bracket	1
5	A420 2830	Rear Inner Cover - Rear Side Fence	1
8	A420 2145	Solenoid Bracket	1
9	A420 2161	Pressure Pick-up Lever	1
10	A420 2148	Pick-up Solenoid Bracket	1
11	A000 2702	Lift Sensor Bracket	1
12	5205 5251	LED Sensor Type - T	1
13	5205 5321	Pick-up Solenoid	1
14	A007 2743	Pressure Solenoid Lever	1
15	5403 2075	Stepped Screw	2
16	AA06 0082	Pick-up Lever Spring	1
17	A420 2635	Release Lever Bracket	1
18	A420 2636	Release Lever Shaft	1
19	A420 2620	Release Lever Bracket Knob	1
20	A420 2631	Lock Lever	1
21	A420 2641	Tention Arm Spring	1
22	A420 2810	Inner Cover - Front Side Fence	1
23	A420 2820	Front Inner Cover - Front Side Fence	1
24	A420 2535	Idler - 5mm	1
25	5328 1304	Bushing - 5x11x5mm	1
26	A420 2530	Idler Bracket	1
27	A420 2527	Motor Bracket	1
28	A420 2526	Pulley - 15T/18T	1
29	AX02 0028	Paper Feed Motor	1
30	A420 2565	Motor Stay	1
31	A420 2611	Paper Bank Grip	1
32	A420 2350	Paper Bank Base	1
33	A420 2561	Capacitor Bracket	1
34	A420 4252	Decal - E3	1
34	AA00 1060	Decal - E3	1
35	AA00 1061	Decal - E4	1
36	A019 1366	Decal - Paper Load	1
37	A420 2331	Paper Feed Support Bracket	1
101	0314 0060W	Philips Pan Head Screw - M4x6	
102	0314 0080W	Philips Pan Head Screw - M4x8	
103	0314 0100W	Philips Pan Head Screw - M4x10	
104	0315 0080W	Philips Pan Head Screw - M5x8	
105	0434 0080W	Tapping Screw - M4x8	
106	0555 0050E	Hexagon Headless Set Screw - M5x5	
107	0623 0100	Spring Pin - 3x10mm	
108	0707 4050B	Bushing - 4x5mm	
109	0720 0040E	Retaining Ring - M4	
110	0720 0050E	Retaining Ring - M5	
111	0802 5094	Tapping Screw - M4x8	
112	0965 4010W	Tapping Screw With Flat Washer - M4x10	
113	1606 1587	Capacitor - 8μF 220V	

4. 3RD PAPER FEED SECTION (A420)

August 31, '89



4. 3RD PAPER FEED SECTION (A420)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 2689	Paper Feed Stay	1
2	A420 2373	Upper Transport Guide	1
3	5447 2681	Snap Ring	3
4	5447 2723	Pick-up Roller	1
5	5447 2726	Paper Feed Roller	1
6	AB01 3078	Gear - 18T	1
7	0805 3039	Ball Bearing - 8x16x5mm	3
8	A007 2684	Paper Feed Roller Bracket	1
9	AB01 3079	Gear - 21T	1
10	A007 2686	Feed Guide - Paper Feed Roller	1
11	A420 2152	Pick-up Shaft	1
12	A420 2150	Feed Guide Shaft	1
13	AB01 3096	Gear - 20T	1
14	AB01 3097	Gear - 20T	1
15	A420 2378	Bushing	2
16	5205 2693	Relay Roller Spring	2
17	5053 0447	Bushing - M6	2
18	AB01 3077	Gear - 20T	1
19	5205 2865	Bushing - Paper Feed Roller	1
20	A420 2270	Separation Drive Gear	1
21	AX20 0015	Magnetic Clutch	1
22	5205 2866	Magnetic Clutch Collar	2
23	AB01 3095	Gear - 40T	2
24	AX20 0016	Magnetic Clutch - Transport	1
25	A420 2563	Rubber - Magnetic Clutch Stopper	1
26	A420 2562	Magnetic Clutch Stopper	1
27	A007 2759	Sector Gear	1
28	A007 2757	Bushing - Sector Gear	2
29	A007 2756	Bushing - Volume Sensor Shaft	2
30	A007 2615	Feed Guide - Upper	1
31	A420 2135	Paper Feed Cover - Upper	1
32	5205 5251	LED Sensor Type - T	1
33	5205 5253	Photointerruptor Pack	2
34	A007 2724	Lower Bracket - Paper End	1
35	5447 2693	Separation Roller	1

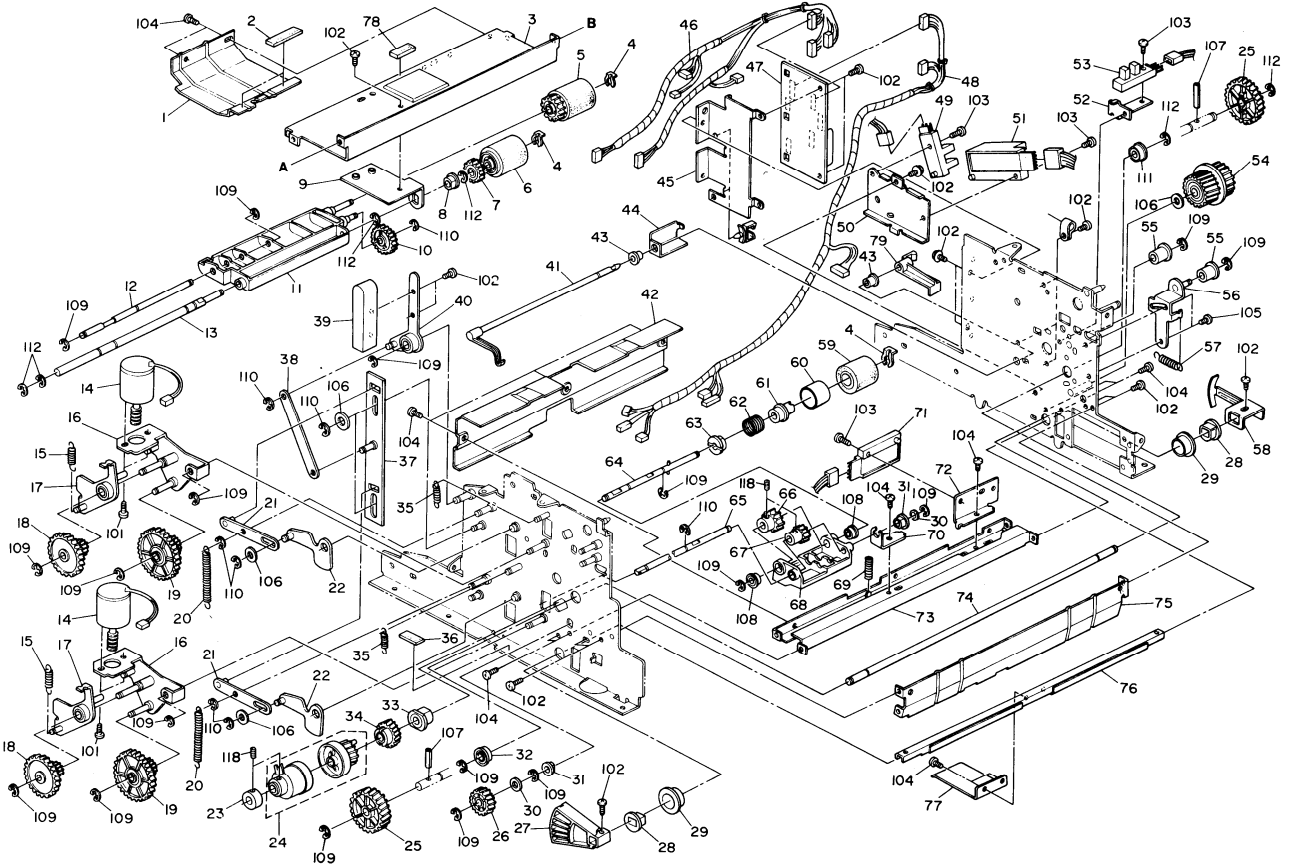
Index No.	Part No.	Description	Q'ty Per Assembly
36	A007 2720	Paper End Actuator Bracket	1
37	A007 2718	Paper End Feeler	1
38	A420 2380	Paper Sensor Feeler	1
39	A007 2649	Separation Guide	1
40	5205 2633	Separation Drive Shaft	1
41	5443 2668	Bushing	4
42	A420 2385	Lower Feeler Bracket	1
43	5447 2676	Output Hub	1
44	5447 2678	Slip Clutch Cover	1
45	5447 2697	Cylindrical Spring	1
46	5447 2695	Input Hub	1
47	5205 2644	Paper End Actuator	1
48	A420 2925	Pulley - 19T	1
49	A420 2528	Timing Belt - 184XL	1
50	A007 2758	Volume Sensor Arm	1
51	A420 2383	Shield Plate - Paper Sensor	1
52	A420 2355	Holder Plate - Transport Guide	1
53	A007 2661	Paper Size Sensor Bracket	1
54	A420 2141	Upper Paper Feed Separation Stay	1
55	A007 2655	Fixed Bracket - Separation	1
56	A007 2657	Separation Arm	1
57	AB01 1023	Gear - 15T	1
58	AB01 1024	Gear - 25T	1
59	AA06 3021	Paper Feed Separation Spring	1
60	AA14 0044	Pressure Arm Shaft	1
61	A420 2515	Upper Relay Shaft	1
62	A420 2371	Paper Feed Guide	1
63	A420 2375	Lower - Transport Drive Roller	1
64	A420 2374	Right Paper Feed Guide	1
65	A420 2377	Lower Transport Roller	1
66	AA02 1004	Upper Guide Plate Magnet	2
67	A007 2752	Volume Sensor Shaft	1
68	A007 2754	Bottom Plate Lever	1
69	A420 2360	Right Transport Guide	1
70	A420 2364	Front Guide Spring	1

Index No.	Part No.	Description	Q'ty Per Assembly
71	A420 2367	Rear Guide Spring	1
72	AA13 2024	Spacer - 1x6x10mm	1
73	AA00 1059	Decal - E2	1
74	AA13 2025	Spacer - 1x8x12mm	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0314 0060W	Philips Pan Head Screw - M4x6	
103	0314 0100W	Philips Pan Head Screw - M4x10	
104	0434 0080W	Tapping Screw - M4x8	
105	0534 0060W	Hexagon Set Screw - M4x6	
106	0574 0050E	Hexagon Headless Set Screw - M4x5	
107	0623 0140E	Spring Pin - 3x14mm	
108	0720 0030E	Retaining Ring - M3	
109	0720 0040E	Retaining Ring - M4	
110	0720 0050E	Retaining Ring - M5	
111	0720 0050E	Retaining Ring - M5	
112	0720 0060E	Retaining Ring - M6	
113	0805 0050	Retaining Ring - M5	
114	0805 0060	Retaining Ring - M6	
115	0805 3042	Ball Bearing - 6x10x3mm	
116	0805 3291	Ball Bearing - 8x16x5mm	
117	1105 0016	Nylon Clip - 4N	
118	0807 4116	Spacer - M6	

5. 4TH PAPER FEED SECTION (A420)

August 31, '89



5. 4TH PAPER FEED SECTION (A420)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A007 2631	Pick-up Lower Guide	1
2	5205 2777	Cushion - Lower Pick-up Guide	1
3	A420 2131	Paper Feed Stay	1
4	5447 2681	Snap Ring	3
5	5447 2723	Pick-up Roller	1
6	5447 2726	Paper Feed Roller	1
7	AB01 3078	Gear - 18T	1
8	5053 0223	Bushing - 8mm	1
9	A007 2709	Paper Feed Roller	1
10	AB01 3079	Gear - 21T	1
11	A007 2686	Feed Guide - Paper Feed Roller	1
12	A420 2152	Pick-up Shaft	1
13	A420 2150	Feed Guide Shaft	1
14	A000 5507	Lift Motor - DC1.69W	2
15	5205 2678	Spring	2
16	5205 2667	Paper Lift Motor Bracket	2
17	5205 2788	Cassette Sensor Arm - Upper	2
18	5205 2681	Coupled Gear - 17T/50T	2
19	5205 2680	Coupled Gear - 16T/53T	2
20	A420 2261	Paper Feed Spring	2
21	A420 2220	Release Arm	2
22	A420 2240	Release Cam - Cassette	2
23	5205 2866	Magnetic Clutch Collar	1
24	AX20 0015	Magnetic Clutch	1
25	AB01 3095	Gear - 40T	2
26	AB01 3077	Gear - 20T	1
27	A007 2759	Sector Gear	1
28	A007 2757	Bushing - Sector Gear	2
29	A007 2756	Bushing - Volume Sensor Shaft	2
30	AA13 2024	Spacer - 1x6x10mm	1
31	5053 0447	Bushing - M6	2
32	0805 3291	Ball Bearing - 8x16x5mm	1
33	5205 2865	Bushing - Paper Feed Roller	1
34	A420 2270	Separation Drive Gear	1
35	5205 2674	Spring	2

Index No.	Part No.	Description	Q'ty Per Assembly
36	A420 2265	Cushion - Rising Gear	1
37	A420 2230	Paper Feed Guide	1
38	A420 2245	Paper Knob Lever	1
39	A420 2251	Paper Knob	1
40	A420 2210	Arm Lever - Paper Knob	1
41	A007 2718	Paper End Feeler	1
42	A007 2649	Separation Guide	1
43	5443 2668	Bushing	2
44	A007 2726	Paper End Actuator Bracket	1
45	A420 2387	Print Board Bracket	1
46	A420 5275	Rear Paper Bank Harness	1
47	A420 5270	Print Board - Paper Bank	1
48	A420 5276	Front Paper Bank Harness	1
49	5205 5251	LED Sensor Type - T	1
50	A007 2724	Lower Bracket - Paper End	1
51	5205 5253	Photointerruptor Pack	1
52	A420 2384	LED Sensor Bracket	1
53	5205 5251	LED Sensor Type - T	1
54	A420 2925	Pulley - 19T	1
55	A420 2535	Idler - 5mm	1
56	A420 2520	Tention Arm	1
57	A420 2641	Tention Arm Spring	1
58	A007 2758	Volume Sensor Arm	1
59	5447 2693	Separation Roller	1
60	5447 2678	Slip Clutch Cover	1
61	5447 2676	Output Hub	1
62	5447 2697	Cylindrical Spring	1
63	5447 2695	Input Hub	1
64	AA14 0135	Separation Driven Shaft	1
65	AA14 0044	Pressure Arm Shaft	1
66	AB01 1023	Gear - 15T	1
67	AB01 1024	Gear - 25T	1
68	A007 2657	Separation Arm	1
69	AA06 3021	Paper Feed Separation Spring	1
70	A007 2655	Fixed Bracket - Separation	1

Index No.	Part No.	Description	Q'ty Per Assembly
71	5205 5253	Photointerruptor Pack	1
72	A007 2661	Paper Size Sensor Bracket	1
73	A420 2141	Upper Paper Feed Separation Stay	1
74	A420 2511	Transport Shaft	1
75	A420 2371	Paper Feed Guide	1
76	A007 2752	Volume Sensor Shaft	1
77	A007 2754	Bottom Plate Lever	1
78	A007 2894	Cushion - 8x15x30	1
79	5205 2644	Paper End Actuator	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0060W	Philips Pan Head Screw - M3x6	
102	0314 0060W	Philips Pan Head Screw - M4x6	
103	0314 0100W	Philips Pan Head Screw - M4x10	
104	0434 0080W	Tapping Screw - M4x8	
105	0314 0080W	Philips Pan Head Screw - M4x8	
106	0700 0060	Spacer	
107	0623 0140E	Spring Pin - 3x14mm	
108	0805 3042	Ball Bearing - 6x10x3mm	
109	0720 0040E	Retaining Ring - M4	
110	0720 0050E	Retaining Ring - M5	
111	0805 3291	Ball Bearing - 8x16x5mm	
112	0720 0060E	Retaining Ring - M6	
113	0805 0050	Retaining Ring - M5	
114	0805 0060	Retaining Ring - M6	
115	0805 3042	Ball Bearing - 6x10x3mm	
116	0805 3291	Ball Bearing - 8x16x5mm	
117	1105 0016	Nylon Clip - 4N	
118	0534 0060W	Hexagon Set Screw - M4x6	

CONNECTOR

SYMBOL NO.	INDEX NO.
CN451	106
CN452	107
CN453	108
CN454	103
CN455	105
CN456	102
CN457	104
CN458	101

DIODE

SYMBOL NO.	INDEX NO.
D451	110
D452	110
D453	110
D454	110
D455	110
D456	110
D457	110
D458	110
D459	110
D460	110

SYMBOL NO.	INDEX NO.
D461	110
D462	110
D463	110
D464	110
D465	110
D466	110
D467	110
D468	110
D469	110
D470	110

SYMBOL NO.	INDEX NO.
D471	110
D472	110
D473	110
D474	111
D475	111
D476	111

CAPACITOR

SYMBOL NO.	INDEX NO.
C451	113
C452	112

SSR

SYMBOL NO.	INDEX NO.
SSR451	109

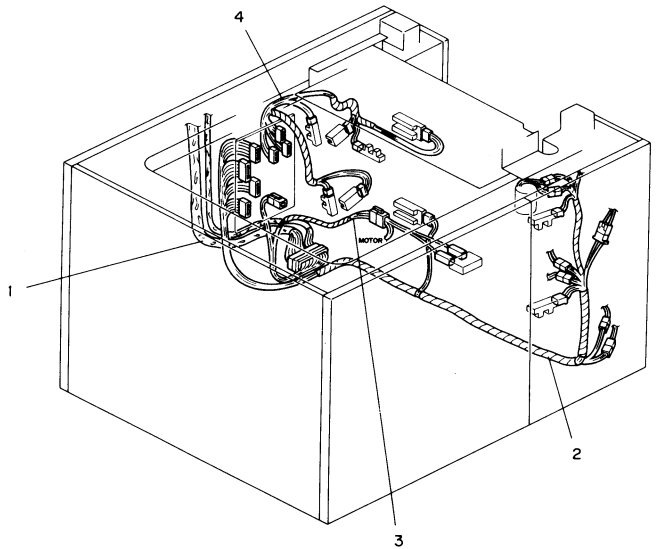
6. PRINT BOARD – PAPER BANK (A420)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A420 5270	Print Board - Paper Bank	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1102 2113	Connector - 2P	
102	1103 1730	Connector - 8P	
103	1103 1731	Connector - 9P	
104	1103 1732	Connector - 10P	
105	1103 1734	Connector - 12P	
106	1103 1735	Connector - 13P	
107	1103 1736	Connector - 14P	
108	1103 1749	Connector - 13P	
109	1208 1028	Solid State Relay	
110	1401 0825	Diode - 1SS176	
111	1402 0423	Diode - S5500G	
112	1604 1382	Capacitor - 10µF 50V	
113	1606 0998	Capacitor - 0.01µF 50V	

7. HARNESS LAYOUT (A420)

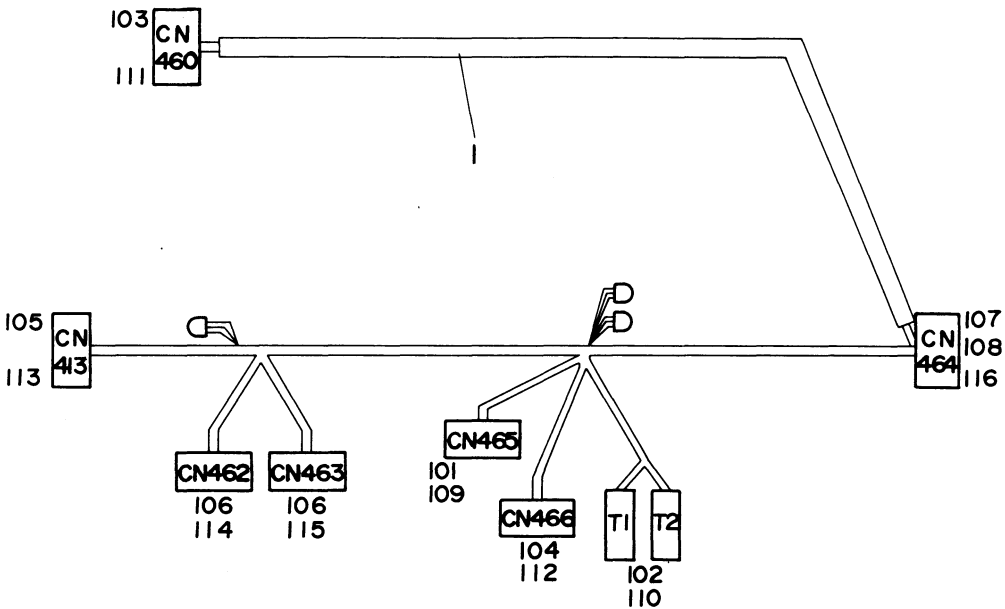
August 31, '89



7. HARNESS LAYOUT (A420)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A420 5273	Vertical Transport Harness	1
2	A420 5276	Front Paper Bank Harness	1
3	A420 5274	Main Paper Bank Harness	1
4	A420 5275	Rear Paper Bank Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly

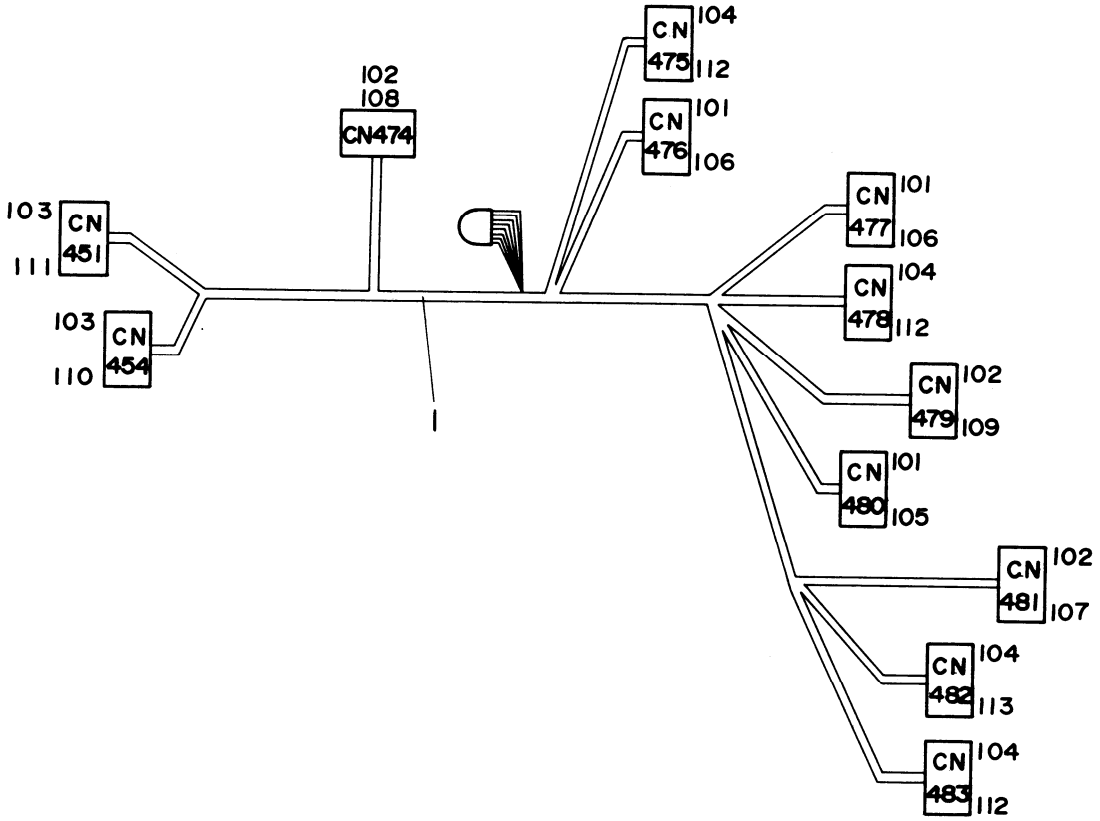

103
CN
460
111
1
105
CN
413
113
107
CN
464
108
116
CN462
106
114
CN463
106
115
CN465
101
109
CN466
104
112
T1
T2
102
110

8. VERTICAL TRANSPORT HARNESS (A420)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A420 5273	Vertical Transport Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1159	Socket - Mate-N-Lock	
102	1100 1172	Fastening Receptacle	
103	1100 1239	Pin - Mate-N-Lock	
104	1100 1249	Receptacle Terminal	
105	1100 1327	Contact	
106	1100 1328	Contact	
107	1100 1342	Contact	
108	1100 1345	Pin Contact	
109	1102 1326	Connector - 3P	
110	1102 1402	Receptacle Housing - 1P	
111	1102 1524	Connector - 2P(RED)	
112	1102 1786	Connector - 3P	
113	1102 1922	Connector - 14P	
114	1102 1969	Connector - 10P	
115	1102 1974	Connector - 8P	
116	1102 2482	Connector	

9. FRONT PAPER BANK HARNESS (A420)

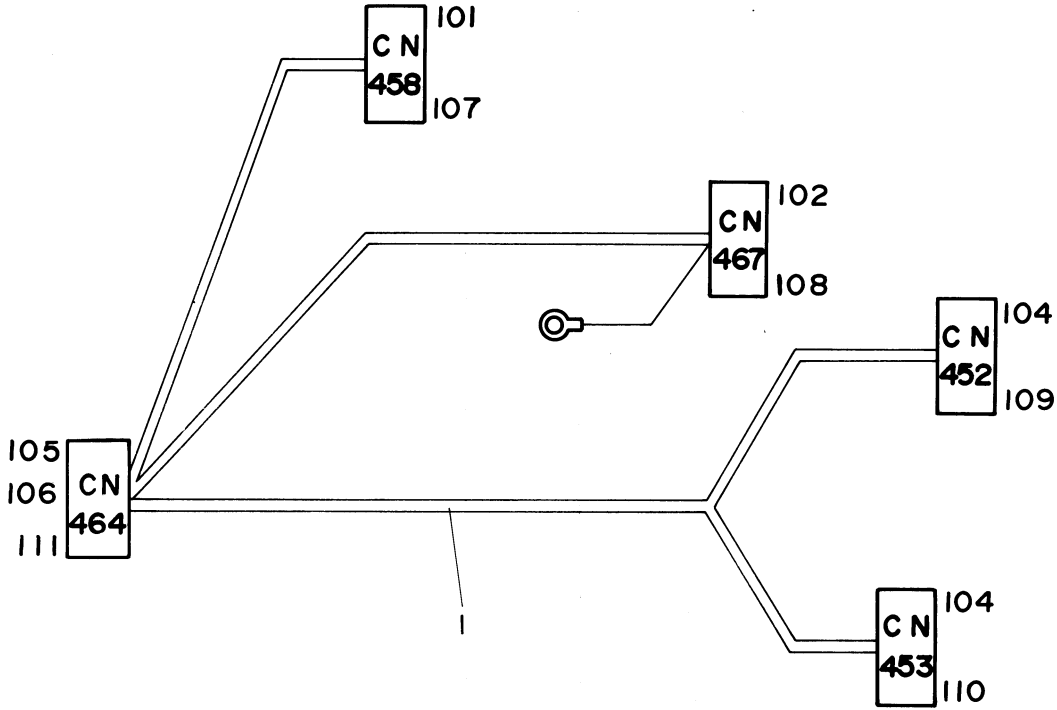


9. FRONT PAPER BANK HARNESS (A420)

August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
1	A420 5276	Front Paper Bank Harness	1

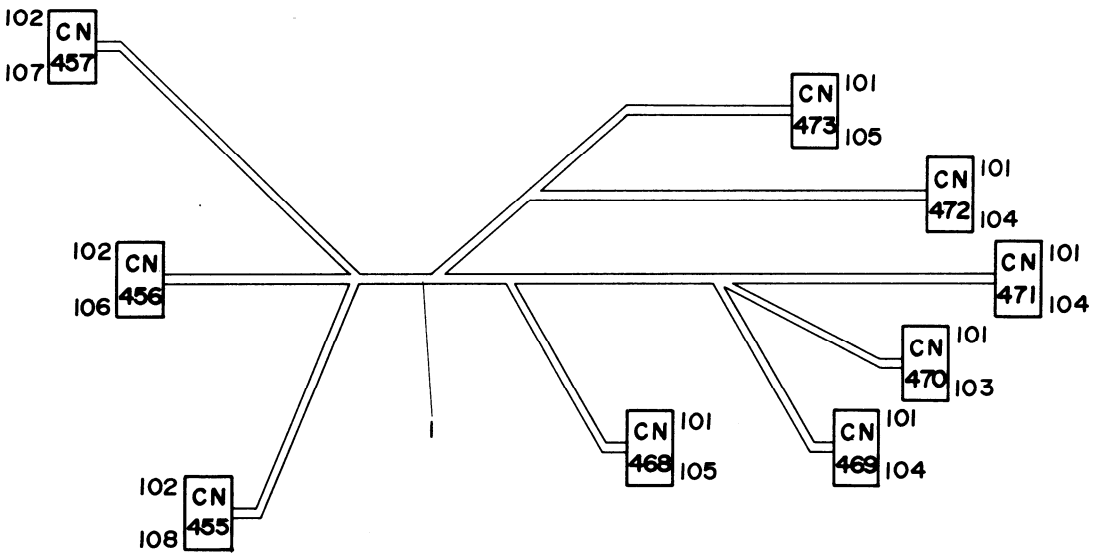
Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1159	Socket - Mate-N-Lock	
102	1100 1249	Receptacle Terminal	
103	1100 1327	Contact	
104	1100 1328	Contact	
105	1102 1326	Connector - 3P	
106	1102 1396	Connector - 2P	
107	1102 1620	Connector - 3P	
108	1102 1623	Receptacle Housing - 7P	
109	1102 1786	Connector - 3P	
110	1102 1917	Connector - 9P	
111	1102 1921	Connector - 13P	
112	1102 1964	Connector - 2P	
113	1102 1970	Connector - 2P	


101
C N
458
107
102
CN
467
108
104
C N
452
109
105
106
CN
464
111
1
104
C N
453
110

10. MAIN PAPER BANK HARNESS (A420)

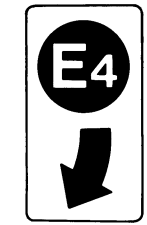
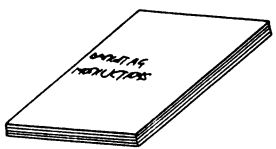
Index No.	Part No.	Description	Q'ty Per Assembly
1	A420 5274	Harness - Cassette Bank	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 0864	Housing - AWG14-20	
102	1100 1241	Socket - Mate-N-Lock	
103	1100 1264	Fastening Receptacle	
104	1100 1327	Contact	
105	1100 1340	Contact	
106	1100 1343	Pin Contact	
107	1102 0946	Housing - 3P	
108	1102 1516	Connector - 3P	
109	1102 1922	Connector - 14P	
110	1102 1935	Connector	
111	1102 2481	Connector - 32P	


102
CN
457
107
CN
473
101
105
CN
472
101
104
102
CN
456
106
CN
471
101
104
CN
470
101
103
CN
468
101
105
CN
469
101
104
102
CN
455
108

11. REAR PAPER BANK HARNESS (A420)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A420 5275	Rear Paper Bank Harness	1
101	1100 1249	Receptacle Terminal	
102	1100 1327	Contact	
103	1102 1620	Connector - 3P	
104	1102 1623	Receptacle Housing - 7P	
105	1102 1786	Connector - 3P	
106	1102 1916	Connector - 8P	
107	1102 1918	Connector - 10P	
108	1102 1920	Connector - 12P	

1 	2 	3 	4 
5 			

12. DECAL (A420)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A420 4256	Decal Sheet - 4LANGUAGES	1
*	A420 4258	Decal Sheet	1
1	A420 4232	Decal - E1	1
1	AA00 1053	Decal - E1	1
2	AA00 1059	Decal - E2	1
3	AA00 1060	Decal - E3	1
4	AA00 1061	Decal - E4	1
5	A420 8610	Installation Procedure - English	1
5	A420 8615	Installation Procedure - 5 Language	1

Index No.	Part No.	Description	Q'ty Per Assembly

PARTS INDEX

Parts No.	Description	Page and Index No.
A420 2111	Front Guide Cover - Receiving Cassette	9-2
A420 2121	Rear Guide Cover - Receiving Cassette	9-1
A420 2131	Paper Feed Stay	13-3
A420 2135	Paper Feed Cover - Upper	11-31
A420 2141	Upper Paper Feed Separation Stay	11-54
A420 2141	Upper Paper Feed Separation Stay	13-73
A420 2145	Solenoid Bracket	9-8
A420 2148	Pick-up Solenoid Bracket	9-10
A420 2150	Feed Guide Shaft	11-12
A420 2150	Feed Guide Shaft	13-13
A420 2152	Pick-up Shaft	11-11
A420 2152	Pick-up Shaft	13-12
A420 2161	Pressure Pick-up Lever	9-9
A420 2210	Arm Lever - Paper Knob	13-40
A420 2220	Release Arm	13-21
A420 2230	Paper Feed Guide	13-37
A420 2240	Release Cam - Cassette	13-22
A420 2245	Paper Knob Lever	13-38
A420 2251	Paper Knob	13-39
A420 2261	Paper Feed Spring	13-20
A420 2265	Cushion - Rising Gear	13-36
A420 2270	Separation Drive Gear	11-20
A420 2270	Separation Drive Gear	13-34
A420 2331	Paper Feed Support Bracket	9-37
A420 2350	Paper Bank Base	9-32
A420 2355	Holder Plate - Transport Guide	11-52
A420 2360	Right Transport Guide	11-69
A420 2364	Front Guide Spring	11-70
A420 2367	Rear Guide Spring	11-71
A420 2371	Paper Feed Guide	11-62
A420 2371	Paper Feed Guide	13-75
A420 2373	Upper Transport Guide	11-2
A420 2374	Right Paper Feed Guide	11-64
A420 2375	Lower - Transport Drive Roller	11-63
A420 2377	Lower Transport Roller	11-65

Parts No.	Description	Page and Index No.
A420 2378	Bushing	11-15
A420 2378	Bushing	5-10
A420 2380	Paper Sensor Feeler	11-38
A420 2383	Shield Plate - Paper Sensor	11-51
A420 2384	LED Sensor Bracket	13-52
A420 2385	Lower Feeler Bracket	11-42
A420 2387	Print Board Bracket	13-45
A420 2511	Transport Shaft	13-74
A420 2515	Upper Relay Shaft	11-61
A420 2520	Tention Arm	13-56
A420 2526	Pulley - 15T/18T	9-28
A420 2527	Motor Bracket	9-27
A420 2528	Timing Belt - 184XL	11-49
A420 2530	Idler Bracket	9-26
A420 2535	Idler - 5mm	13-55
A420 2535	Idler - 5mm	9-24
A420 2561	Capacitor Bracket	9-33
A420 2562	Magnetic Clutch Stopper	11-26
A420 2563	Rubber - Magnetic Clutch Stopper	11-25
A420 2563	Rubber - Magnetic Clutch Stopper	5-34
A420 2565	Motor Stay	9-30
A420 2611	Paper Bank Grip	9-31
A420 2620	Release Lever Bracket Knob	9-19
A420 2631	Lock Lever	9-20
A420 2635	Release Lever Bracket	9-17
A420 2636	Release Lever Shaft	9-18
A420 2641	Tention Arm Spring	13-57
A420 2641	Tention Arm Spring	9-21
A420 2709	Front Side Fence - Transport	5-7
A420 2719	Rear Side Fence - Transport	5-31
A420 2726	Rear Side Fence Cap - Transport	5-30
A420 2732	Transport Sensor Bracket	5-19
A420 2733	Left Guide Plate - Transport	5-21
A420 2735	Feeler Bracket	5-16
A420 2741	Paper Sensor Feeler	5-14

Parts No.	Description	Page and Index No.
A420 2742	Feeler Shaft - Paper Sensor	5-15
A420 2743	Upper Shutter - Paper Sensor	5-17
A420 2752	Right Guide Plate - Transport	5-22
A420 2755	Upper Drive Relay Roller	5-20
A420 2756	Upper Relay Roller	5-23
A420 2761	Gear - 38T	5-9
A420 2762	Transport Bracket Spring	5-12
A420 2766	Magnetic Clutch Stopper	5-33
A420 2767	Idle Gear Spring	5-27
A420 2770	Front Transport Bracket	5-13
A420 2780	Rear Transport Bracket	5-24
A420 2785	Gear - 18T	5-8
A420 2810	Inner Cover - Front Side Fence	9-22
A420 2820	Front Inner Cover - Front Side Fence	9-23
A420 2830	Rear Inner Cover - Rear Side Fence	9-5
A420 2925	Pulley - 19T	11-48
A420 2925	Pulley - 19T	13-54
A420 3210	Base Plate	7-1
A420 3215	Slide Rail - Paper Bank	7-5
A420 3222	Bank Table Guide	7-21
A420 3226	Connector Cover Bracket	7-31
A420 3227	Connector Bracket	7-30
A420 3230	Sealed Plate Bracket	7-25
A420 3233	Connector Sealed Plate	7-26
A420 3234	Connector Angle	7-2
A420 3240	Safety Switch Bracket	7-33
A420 3244	Safety Switch Cover	7-32
A420 3246	Clamp Bracket	7-14
A420 3247	Harness Guard Bracket	7-27
A420 3250	Guide Holder Bracket	7-3
A420 3261	Safety Switch Joint	7-34
A420 3262	Joint - Safety Switch	7-37
A420 3625	Paper Bank Door	7-35
A420 3635	Left Table Cover	7-16
A420 3645	Rear Cover - Paper Bank	7-18

Parts No.	Description	Page and Index No.
A420 3653	Guide Bracket - Paper Bank	7-17
A420 3654	Positioning Bracket	7-20
A420 3655	Frame Rail	7-19
A420 3658	Paper Bank Cushion	7-15
A420 3670	Paper Bank Small Cover	7-12
A420 3675	Paper Bank Front Cover	7-13
A420 3698	Front Table Hinge	7-11
A420 3699	Magnet Catch Ass'y	7-6
A420 3721	Rear Cover	7-38
A420 3753	Grip Guide	7-7
A420 3754	Grip - Paper Feed Table	7-9
A420 3755	Grip Guide Shaft	7-8
A420 3756	Grip Stopper	7-10
A420 4110	Transport Knob Bracket	5-1
A420 4113	Gear - 26T	5-3
A420 4114	Knob Shaft	5-5
A420 4115	Transport Roller Knob	5-6
A420 4116	Gear - 30T	5-4
A420 4117	Stopper Guide	7-39
A420 4232	Decal - E1	27-1
A420 4252	Decal - E3	9-34
A420 4256	Decal Sheet - 4LANGUAGES	27-*
A420 4258	Decal Sheet	27-*
A420 5270	Print Board - Paper Bank	13-47
A420 5270	Print Board - Paper Bank	15-*
A420 5273	Vertical Transport Harness	17-1
A420 5273	Vertical Transport Harness	19-1
A420 5273	Vertical Transport Harness	5-25
A420 5274	Main Paper Bank Harness	17-3
A420 5274	Harness - Cassette Bank	23-1
A420 5274	Main Paper Bank Harness	7-4
A420 5275	Rear Paper Bank Harness	13-46
A420 5275	Rear Paper Bank Harness	17-4
A420 5275	Rear Paper Bank Harness	25-1
A420 5276	Front Paper Bank Harness	13-48

Parts No.	Description	Page and Index No.
A420 5276	Front Paper Bank Harness	17-2
A420 5276	Front Paper Bank Harness	21-1
A420 8610	Installation Procedure - English	27-5
A420 8615	Installation Procedure - 5 Language	27-5

Parts No.	Description	Page and Index No.
AA00 1053	Decal - E1	27-1
AA00 1059	Decal - E2	11-73
AA00 1059	Decal - E2	27-2
AA00 1060	Decal - E3	27-3
AA00 1060	Decal - E3	9-34
AA00 1061	Decal - E4	27-4
AA00 1061	Decal - E4	9-35
AA02 1004	Upper Guide Plate Magnet	11-66
AA06 0082	Pick-up Lever Spring	9-16
AA06 3021	Paper Feed Separation Spring	11-59
AA06 3021	Paper Feed Separation Spring	13-69
AA13 2024	Spacer - 1x6x10mm	11-72
AA13 2024	Spacer - 1x6x10mm	13-30
AA13 2025	Spacer - 1x8x12mm	11-74
AA13 2025	Spacer - 1x8x12mm	5-35
AA14 0044	Pressure Arm Shaft	11-60
AA14 0044	Pressure Arm Shaft	13-65
AA14 0135	Separation Driven Shaft	13-64
AB01 1023	Gear - 15T	11-57
AB01 1023	Gear - 15T	13-66
AB01 1024	Gear - 25T	11-58
AB01 1024	Gear - 25T	13-67
AB01 3077	Gear - 20T	11-18
AB01 3077	Gear - 20T	13-26
AB01 3078	Gear - 18T	11-6
AB01 3078	Gear - 18T	13-7
AB01 3079	Gear - 21T	11-9
AB01 3079	Gear - 21T	13-10
AB01 3094	Idle Gear - 36T	5-28
AB01 3095	Gear - 40T	11-23
AB01 3095	Gear - 40T	13-25
AB01 3096	Gear - 20T	11-13
AB01 3097	Gear - 20T	11-14
AB01 3097	Gear - 20T	5-26
AX02 0028	Paper Feed Motor	9-29

Parts No.	Description	Page and Index No.
AX20 0015	Magnetic Clutch	11-21
AX20 0015	Magnetic Clutch	13-24
AX20 0016	Magnetic Clutch - Transport	11-24
AX20 0016	Magnetic Clutch - Vertical Transport	5-29
A000 2702	Lift Sensor Bracket	9-11
A000 5507	Lift Motor - DC1.69W	13-14
A007 2615	Feed Guide - Upper	11-30
A007 2631	Pick-up Lower Guide	13-1
A007 2649	Separation Guide	11-39
A007 2649	Separation Guide	13-42
A007 2655	Fixed Bracket - Separation	11-55
A007 2655	Fixed Bracket - Separation	13-70
A007 2657	Separation Arm	11-56
A007 2657	Separation Arm	13-68
A007 2661	Paper Size Sensor Bracket	11-53
A007 2661	Paper Size Sensor Bracket	13-72
A007 2684	Paper Feed Roller Bracket	11-8
A007 2686	Feed Guide - Paper Feed Roller	11-10
A007 2686	Feed Guide - Paper Feed Roller	13-11
A007 2689	Paper Feed Stay	11-1
A007 2709	Paper Feed Roller	13-9
A007 2718	Paper End Feeler	11-37
A007 2718	Paper End Feeler	13-41
A007 2720	Paper End Actuator Bracket	11-36
A007 2724	Lower Bracket - Paper End	11-34
A007 2724	Lower Bracket - Paper End	13-50
A007 2726	Paper End Actuator Bracket	13-44
A007 2743	Pressure Solenoid Lever	9-14
A007 2752	Volume Sensor Shaft	11-67
A007 2752	Volume Sensor Shaft	13-76
A007 2754	Bottom Plate Lever	11-68
A007 2754	Bottom Plate Lever	13-77
A007 2756	Bushing - Volume Sensor Shaft	11-29
A007 2756	Bushing - Volume Sensor Shaft	13-29
A007 2757	Bushing - Sector Gear	11-28

Parts No.	Description	Page and Index No.
A007 2757	Bushing - Sector Gear	13-28
A007 2758	Volume Sensor Arm	11-50
A007 2758	Volume Sensor Arm	13-58
A007 2759	Sector Gear	11-27
A007 2759	Sector Gear	13-27
A007 2877	Cushion - Upper Pick-off Bracket	9-3
A007 2878	Cushion - Lower Pick-off Bracket	9-4
A007 2894	Cushion - 8x15x30	13-78
A019 1366	Decal - Paper Load	9-36
A019 6354	Decal - Reset	7-36
5053 0223	Bushing - 8mm	13-8
5053 0447	Bushing - M6	11-17
5053 0447	Bushing - M6	13-31
5205 2633	Separation Drive Shaft	11-40
5205 2644	Paper End Actuator	11-47
5205 2644	Paper End Actuator	13-79
5205 2667	Paper Lift Motor Bracket	13-16
5205 2674	Spring	13-35
5205 2678	Spring	13-15
5205 2680	Coupled Gear - 16T/53T	13-19
5205 2681	Coupled Gear - 17T/50T	13-18
5205 2693	Relay Roller Spring	11-16
5205 2693	Relay Roller Spring	5-11
5205 2777	Cushion - Lower Pick-up Guide	13-2
5205 2788	Cassette Sensor Arm - Upper	13-17
5205 2865	Bushing - Paper Feed Roller	11-19
5205 2865	Bushing - Paper Feed Roller	13-33
5205 2866	Magnetic Clutch Collar	11-22
5205 2866	Magnetic Clutch Collar	13-23
5205 2866	Magnetic Clutch Collar	5-32
5205 5251	LED Sensor Type - T	11-32
5205 5251	LED Sensor Type - T	13-49
5205 5251	LED Sensor Type - T	13-53
5205 5251	LED Sensor Type - T	5-18
5205 5251	LED Sensor Type - T	9-12

Parts No.	Description	Page and Index No.
5205 5253	Photointerruptor Pack	11-33
5205 5253	Photointerruptor Pack	13-51
5205 5253	Photointerruptor Pack	13-71
5205 5321	Pick-up Solenoid	9-13
5328 1304	Bushing - 5x11x5mm	9-25
5403 2075	Stepped Screw	9-15
5415 1053	Caster	7-24
5424 1064	Screw Stand	7-22
5424 2625	Connector Spring	7-29
5443 2668	Bushing	11-41
5443 2668	Bushing	13-43
5446 5832	Connector Guide Pin	7-28
5447 2676	Output Hub	11-43
5447 2676	Output Hub	13-61
5447 2678	Slip Clutch Cover	11-44
5447 2678	Slip Clutch Cover	13-60
5447 2681	Snap Ring	11-3
5447 2681	Snap Ring	13-4
5447 2693	Separation Roller	11-35
5447 2693	Separation Roller	13-59
5447 2695	Input Hub	11-46
5447 2695	Input Hub	13-63
5447 2697	Cylindrical Spring	11-45
5447 2697	Cylindrical Spring	13-62
5447 2723	Pick-up Roller	11-4
5447 2723	Pick-up Roller	13-5
5447 2726	Paper Feed Roller	11-5
5447 2726	Paper Feed Roller	13-6

Parts No.	Description	Page and Index No.
0313 0060W	Philips Pan Head Screw - M3x6	11-101
0313 0060W	Philips Pan Head Screw - M3x6	13-101
0314 0060W	Philips Pan Head Screw - M4x6	11-102
0314 0060W	Philips Pan Head Screw - M4x6	13-102
0314 0060W	Philips Pan Head Screw - M4x6	5-101
0314 0060W	Philips Pan Head Screw - M4x6	7-101
0314 0060W	Philips Pan Head Screw - M4x6	9-101
0314 0080W	Philips Pan Head Screw - M4x8	13-105
0314 0080W	Philips Pan Head Screw - M4x8	5-102
0314 0080W	Philips Pan Head Screw - M4x8	7-103
0314 0080W	Philips Pan Head Screw - M4x8	9-102
0314 0100W	Philips Pan Head Screw - M4x10	11-103
0314 0100W	Philips Pan Head Screw - M4x10	13-103
0314 0100W	Philips Pan Head Screw - M4x10	9-103
0314 0120W	Philips Pan Head Screw - M4x12	5-103
0315 0080W	Philips Pan Head Screw - M5x8	7-104
0315 0080W	Philips Pan Head Screw - M5x8	9-104
0343 0060Z	Philips Pan Head Screw - M3x6	7-105
0344 0060Z	Philips Truss Head Screw - M4x6	7-106
0434 0080W	Tapping Screw - M4x8	11-104
0434 0080W	Tapping Screw - M4x8	13-104
0434 0080W	Tapping Screw - M4x8	5-104
0434 0080W	Tapping Screw - M4x8	9-105
0534 0060W	Hexagon Set Screw - M4x6	11-105
0534 0060W	Hexagon Set Screw - M4x6	13-118
0554 0040E	Allen Screw - M4x4	5-105
0555 0050E	Hexagon Headless Set Screw - M5x5	9-106
0574 0050E	Hexagon Headless Set Screw - M4x5	11-106
0623 0100	Spring Pin - 3x10mm	9-107
0623 0140E	Spring Pin - 3x14mm	11-107
0623 0140E	Spring Pin - 3x14mm	13-107
0633 0140B	Parallel Pin	5-106
0700 0060	Spacer	13-106
0700 0080	Washer	5-107
0707 4050B	Bushing - 4x5mm	9-108

Parts No.	Description	Page and Index No.
0720 0030E	Retaining Ring - M3	11-108
0720 0030E	Retaining Ring - M3	5-108
0720 0040E	Retaining Ring - M4	11-109
0720 0040E	Retaining Ring - M4	13-109
0720 0040E	Retaining Ring - M4	5-109
0720 0040E	Retaining Ring - M4	7-107
0720 0040E	Retaining Ring - M4	9-109
0720 0050E	Retaining Ring - M5	11-110
0720 0050E	Retaining Ring - M5	11-111
0720 0050E	Retaining Ring - M5	13-110
0720 0050E	Retaining Ring - M5	5-110
0720 0050E	Retaining Ring - M5	7-108
0720 0050E	Retaining Ring - M5	9-110
0720 0060E	Retaining Ring - M6	11-112
0720 0060E	Retaining Ring - M6	13-112
0720 0060E	Retaining Ring - M6	5-111
0720 0060E	Retaining Ring - M6	7-109
0801 1185	Philips Truss Head Screw - M4x8	7-102
0802 5094	Tapping Screw - M4x8	9-111
0805 0050	Retaining Ring - M5	11-113
0805 0050	Retaining Ring - M5	13-113
0805 0060	Retaining Ring - M6	11-114
0805 0060	Retaining Ring - M6	13-114
0805 3039	Ball Bearing - 8x16x5mm	11-7
0805 3039	Ball Bearing - 8x16x5mm	5-2
0805 3042	Ball Bearing - 6x10x3mm	11-115
0805 3042	Ball Bearing - 6x10x3mm	13-108
0805 3042	Ball Bearing - 6x10x3mm	13-115
0805 3291	Ball Bearing - 8x16x5mm	11-116
0805 3291	Ball Bearing - 8x16x5mm	13-111
0805 3291	Ball Bearing - 8x16x5mm	13-116
0805 3291	Ball Bearing - 8x16x5mm	13-32
0807 4116	Spacer - M6	11-118
0807 4116	Spacer - M6	5-112
0951 4060	Philips Screw With Flat Washer - M4x6	7-110

Parts No.	Description	Page and Index No.
0965 4010W	Tapping Screw With Flat Washer - M4x10	9-112
1100 0864	Housing - AWG14-20	23-101
1100 1159	Socket - Mate-N-Lock	19-101
1100 1159	Socket - Mate-N-Lock	21-101
1100 1172	Fastening Receptacle	19-102
1100 1239	Pin - Mate-N-Lock	19-103
1100 1241	Socket - Mate-N-Lock	23-102
1100 1249	Receptacle Terminal	19-104
1100 1249	Receptacle Terminal	21-102
1100 1249	Receptacle Terminal	25-101
1100 1264	Fastening Receptacle	23-103
1100 1327	Contact	19-105
1100 1327	Contact	21-103
1100 1327	Contact	23-104
1100 1327	Contact	25-102
1100 1328	Contact	19-106
1100 1328	Contact	21-104
1100 1340	Contact	23-105
1100 1342	Contact	19-107
1100 1343	Pin Contact	23-106
1100 1345	Pin Contact	19-108
1102 0946	Housing - 3P	23-107
1102 1326	Connector - 3P	19-109
1102 1326	Connector - 3P	21-105
1102 1396	Connector - 2P	21-106
1102 1402	Receptacle Housing - 1P	19-110
1102 1516	Connector - 3P	23-108
1102 1524	Connector - 2P(RED)	19-111
1102 1620	Connector - 3P	21-107
1102 1620	Connector - 3P	25-103
1102 1623	Receptacle Housing - 7P	21-108
1102 1623	Receptacle Housing - 7P	25-104
1102 1786	Connector - 3P	19-112
1102 1786	Connector - 3P	21-109
1102 1786	Connector - 3P	25-105

Parts No.	Description	Page and Index No.
1102 1916	Connector - 8P	25-106
1102 1917	Connector - 9P	21-110
1102 1918	Connector - 10P	25-107
1102 1920	Connector - 12P	25-108
1102 1921	Connector - 13P	21-111
1102 1922	Connector - 14P	19-113
1102 1922	Connector - 14P	23-109
1102 1935	Connector	23-110
1102 1964	Connector - 2P	21-112
1102 1969	Connector - 10P	19-114
1102 1970	Connector - 2P	21-113
1102 1974	Connector - 8P	19-115
1102 2113	Connector - 2P	15-101
1102 2481	Connector - 32P	23-111
1102 2481	Connector - 32P	7-111
1102 2482	Connector	19-116
1103 1730	Connector - 8P	15-102
1103 1731	Connector - 9P	15-103
1103 1732	Connector - 10P	15-104
1103 1734	Connector - 12P	15-105
1103 1735	Connector - 13P	15-106
1103 1736	Connector - 14P	15-107
1103 1749	Connector - 13P	15-108
1105 0016	Nylon Clip - 4N	11-117
1105 0016	Nylon Clip - 4N	13-117
1204 1280	Push Switch	7-112
1208 1028	Solid State Relay	15-109
1401 0825	Diode - 1SS176	15-110
1402 0423	Diode - S5500G	15-111
1604 1382	Capacitor - 10μF 50V	15-112
1606 0998	Capacitor - 0.01μF 50V	15-113
1606 1587	Capacitor - 8μF 220V	9-113

Parts No.	Description	Page and Index No.

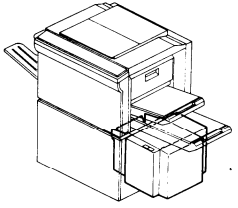
RT21

(A421)

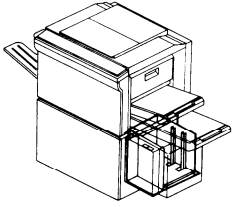
RT21

Location of Unit 3
1. Exterior and Drive Section (A421) 4
2. Tray Section (A421) 6
3. Tray Main Board (A421) 8
4. Harness Layout (A421) 10
5. Main DC Harness (A421) 12
6. AC Harness (A421) 14
7. Tray DC Harness (A421) 16
8. Decal (A421) 18
Parts Index 21

1. EXTERIOR AND DRIVE SECTION

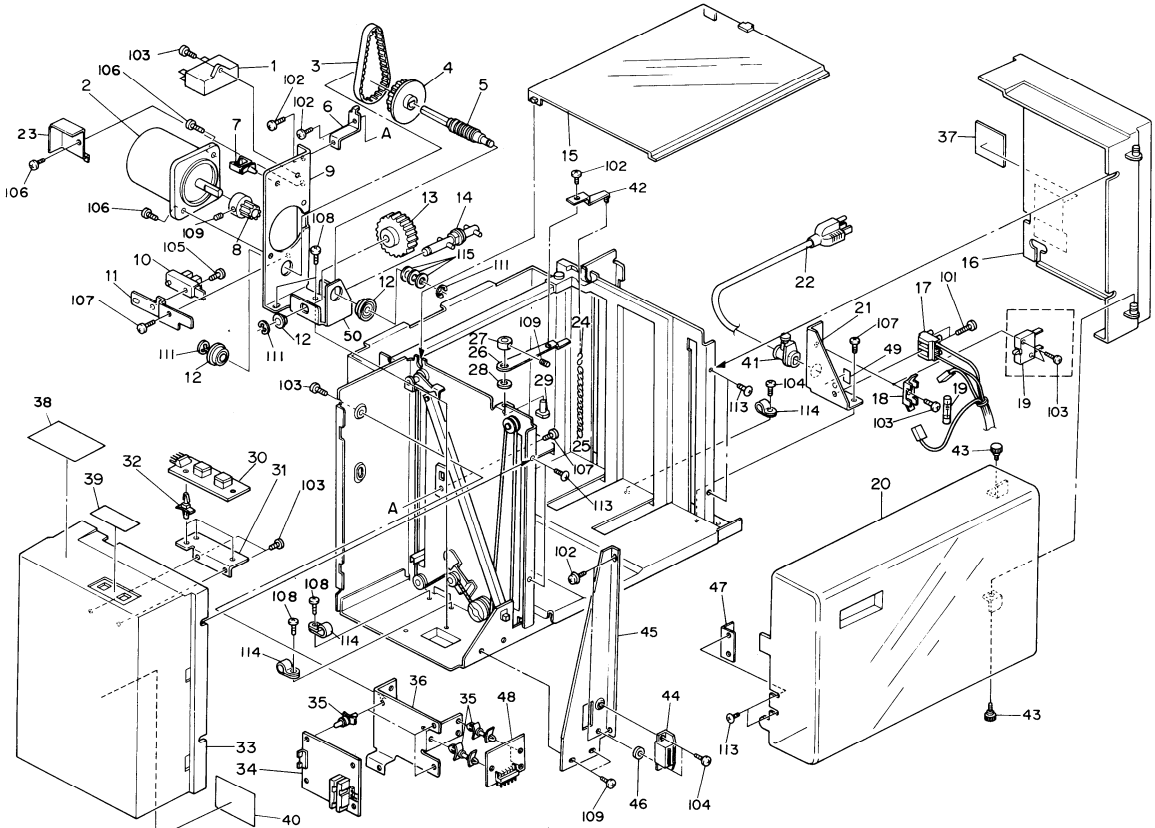


2. TRAY SECTION



1. EXTERIOR AND DRIVE SECTION (A421)

August 31, '89



1. EXTERIOR AND DRIVE SECTION (A421)

August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
1	1606 1246	Capacitor - 9μF 250V	1
2	AX02 0007	Tray Drive Motor - AC35V	1
2	AX02 0008	Tray Drive Motor - AC35W	1
3	AA04 0004	Timing Belt - 120XL-037	1
4	AB03 0008	Pulley - 20T	1
5	AB01 3045	Worm Gear	1
6	A403 1167	Clamp Stay	1
7	1105 0108	Nylon Clip	1
8	AB03 0007	Pulley - 10T	1
9	A403 1181	Drive Motor Bracket	1
10	5205 5250	LED Sensor - Type S	1
11	A403 1168	Sensor Bracket	1
12	5304 1639	Bushing - 8mm	1
13	AB01 3046	Gear - 45T	1
14	A403 1188	Drive Shaft	1
15	A421 2610	Top Cover	1
16	A421 2590	Rear Cover	1
17	1101 0359	Terminal - 3P	1
18	1104 0322	Fuse Holder	1
19	A403 5502	Fuse - 250V 2A	1
19	1107 0487	Circuit Breaker - 115V	1
20	A421 2600	Side Cover	1
21	5925 2266	Power Cord Bracket	1
22	6769 7930	Power Supply Cord - 115V	1
22	5408 7968	Power Supply Cord - 220V	1
23	A421 2570	Bracket - Cover Plate (115V)	1
24	5897 1488	Hook	1
25	5897 1490	Stopper Chain	1
26	A403 1123	Stopper Bar	1
27	A403 1126	Stopper Bar Mounting Stud	1
28	5443 2713	Wave Washer	1
29	A403 1125	Stopper Bar Knob	1
30	A912 5010	Operation Board	1
31	5897 1272	Operation Board Mounting Bracket	1
32	1102 0895	Nylon Stud	1

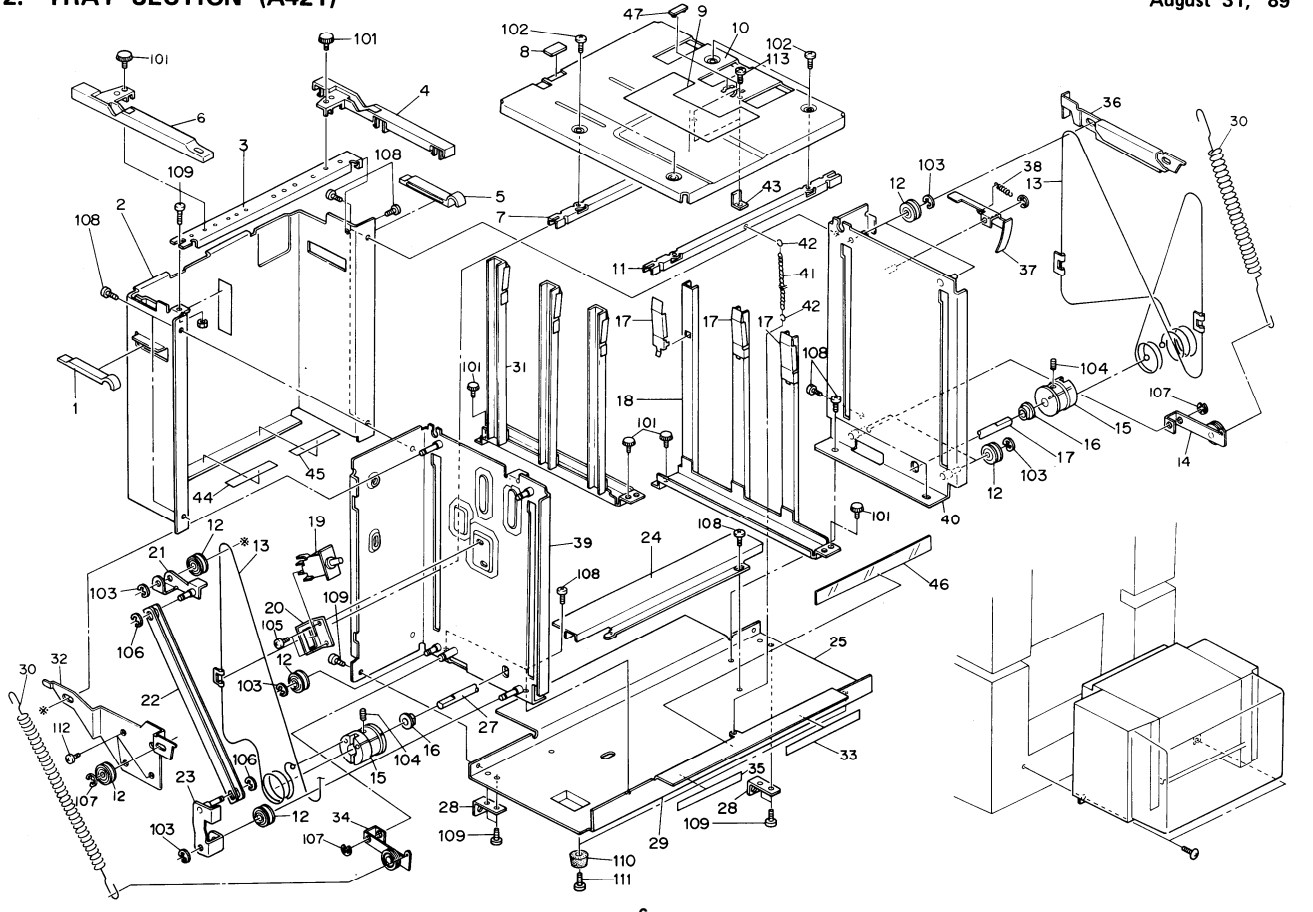
Index No.	Part No.	Description	Q'ty Per Assembly
33	A421 2580	Front Cover	1
34	A421 5200	Tray Main Board	1
35	1106 0336	Nylon Stud	6
36	A421 2561	Tray Main Board Bracket	1
37	5442 1372	Decal - Power Source - 220V	1
37	5446 8906	Decal - English , German - 220V	1
38	A421 2575	Decal - Operater Instruction	1
39	A912 2596	Operation Skin	1
40	A421 2576	Decal - Paper Size	1
41	1106 0442	Cord Clamp - 220/240V	1
42	A403 1124	Spring Plate - Stopper Bar	1
43	5419 5714	Stepped Screw - M4	2
44	5054 0536	Magnet Catch Ass'y	1
45	A403 1117	Front AID Plate	1
46	A403 1118	Magnet Collar	1
47	A403 1245	Magnet Catch Plate	1
48	A421 5100	Paper Size Board	1
49	5403 4335	Decal - Terminal - 115V	1
49	5447 4980	Decal - Terminal - 220V	1
50	A403 1182	Motor Bracket	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0313 0140W	Philips Pan Head Screw - M3x14	
102	0314 0040W	Philips Pan Head Screw - M4x4	
103	0314 0060W	Philips Pan Head Screw - M4x6	
104	0314 0080W	Philips Pan Head Screw - M4x8	
105	0314 0100W	Philips Pan Head Screw - M4x10	
106	0315 0120W	Philips Pan Head Screw - M5x12	
107	0434 0060W	Tapping Screw - M4x6	
108	0434 0080W	Tapping Screw - M4x8	
109	0575 0050E	Hexagon Headless Set Screw - M5x5	
110	0700 0060B	Washer - 6mm	
111	0720 0060E	Retaining Ring - M6	
112	0801 1185	Philips Truss Head Screw - M4x8	
113	0802 5094	Tapping Screw - M4x8	
114	1105 0016	Nylon Clip - 4N	
115	0700 0080E	Washer - 8mm	

Index No.	Part No.	Description	Q'ty Per Assembly

2. TRAY SECTION (A421)

August 31, '89



2. TRAY SECTION (A421)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A421 2530	Front Guide Rail	1
2	A421 2525	Couple Bracket	1
3	A421 2535	Paper Size Stay	1
4	A421 2554	Side Post Grip	1
5	A421 2531	Front Guide Rail	1
6	A421 2548	Side Post Grip	1
7	A403 1239	Left Lift Rod	1
8	A421 2543	Friction Rad - B	1
9	A421 1275	Decal - Paper Size	1
10	A421 2540	Tray Bottom Plate	1
11	A403 1238	Right Lift Rod	1
12	5446 2620	Idler Pulley - 20	8
13	AA05 0006	Drive Wire	2
14	A403 1145	Rear Wire Tightener	1
15	AB03 2005	Rack Drive Shaft Pulley	2
16	5053 0419	Bushing - 10mm - Long - 7mm	2
17	A421 2553	Size Post Rack - Spring Plate	3
18	A421 2550	Size Post Rack	1
19	1204 1280	Push Switch	1
20	A403 1166	Safety Switch Bracket	1
21	A403 1172	Top Actuator Lever	1
22	A403 1171	Safety Switch Actuator	1
23	A403 1174	Bottom Actuator Lever	1
24	A403 1103	Harness Cover	1
25	A421 2501	Tray Bottom Plate	1
26	A421 2505	Set Angle	2
27	AA14 0027	Rack Drive Shaft	1
28	A000 2824	Tape	2
29	A403 1183	Paper Detect Shaft	1
30	AA06 0028	Spring	2
31	A421 2545	Size Post Rack	1
32	A403 1186	Support Bracket	1
33	A421 2510	Rear Paper Size Decal	1
34	A403 1143	Front Wire Tightener	1
35	A421 2508	Front Paper Size Decal	1
36	A403 1187	Rear Support Plate	1
37	A421 2520	Actuator - Paper Volume	1
38	A421 2521	Spring - Paper Volume	1
39	A403 1111	Front Side Frame	1
40	A421 2515	Rear Side Frame	1
41	A403 1147	Chain	1
42	5925 2259	Hook	2
43	A403 1148	Back Fence	1
44	A421 2527	Front Paper Size Decal - Left	1
45	A421 2528	Rear Paper Size Decal - Left	1
46	5920 1511	Mylar - 100x19mm	1
47	A421 2539	Hole Cover	4
101	0803 0017	Knob Screw	
102	0313 0040W	Philips Pan Head Screw - M3x4	
103	0720 0040E	Retaining Ring - M4	
104	0575 0050E	Hexagon Headless Set Screw - M5x5	
105	0314 0050W	Philips Pan Head Screw - M4x5	
106	0720 0030E	Retaining Ring - M3	
107	0720 0060E	Retaining Ring - M6	
108	0434 0080W	Tapping Screw - M4x8	
109	0434 0060W	Tapping Screw - M4x6	
110	0770 0432	Rubber Shoe	
111	0314 0200W	Philips Pan Head Screw - M4x20	
112	0314 0040W	Philips Pan Head Screw - M4x4	
113	0951 4006W	Philips Screw With Flat Washer - M4x6	

CONNECTER

SYMBOL NO.	INDEX NO.
CN100	105
CN101	104
CN102	102
CN103	103
CN104	101
CN105	106

SSR

SYMBOL NO.	INDEX NO.
SSR100	107
SSR101	107

TRANSISTOR

SYMBOL NO.	INDEX NO.
Q100	108
Q101	109
Q102	108
Q103	109

DIODE

SYMBOL NO.	INDEX NO.
D100	110
D101	110
D102	110
D103	110
D104	110
D105	110
D106	110
D107	110

IC

SYMBOL NO.	INDEX NO.
IC100	115
IC101	113
IC102	111
IC103	112
IC104	111
IC105	114
IC106	116

CAPACITOR

SYMBOL NO.	INDEX NO.
C100	117
C101	120
C102	119
C103	118
C104	118
C105	118
C106	119
C107	120
C108	120
C109	120

SYMBOL NO.	INDEX NO.
C110	121
C111	121
C113	120
C114	120
C115	120
C116	120
C117	118
C118	120
C119	118

RESISTOR

SYMBOL NO.	INDEX NO.
R100	123
R101	124
R102	123
R103	130
R104	124
R105	122
R106	123
R107	129
R108	123
R109	122

SYMBOL NO.	INDEX NO.
R110	122
R111	123
R112	123
R113	123
R114	123
R115	122
R116	124
R117	129
R118	125
R119	123

SYMBOL NO.	INDEX NO.
R120	122
R121	127
R122	128
R123	124
R124	127
R125	122
R126	124
R127	129
R128	127
R130	123

SYMBOL NO.	INDEX NO.
R131	122
R132	127
R133	122
R134	126
R135	127
R136	131
R138	124

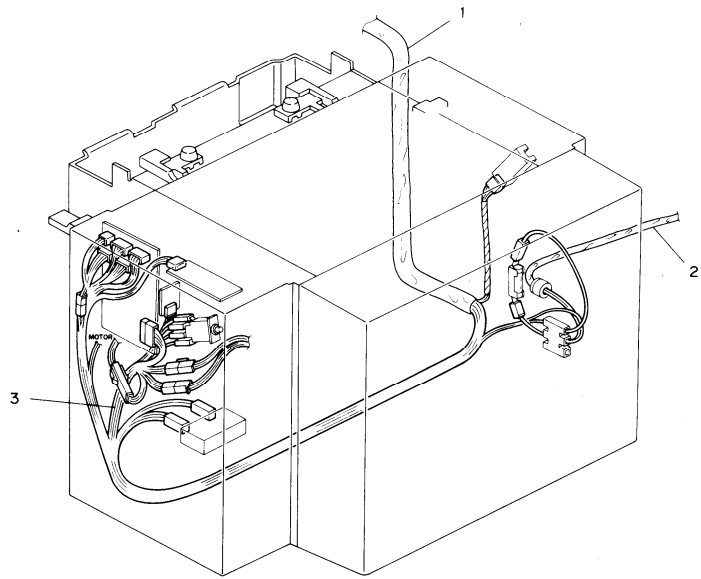
3. TRAY MAIN BOARD (A421)

August 31, '89

Index No.	Part No.	Description	Q'ty Per Assembly
*	A421 5200	Tray Main Board	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1103 1247	Connector - 3P	
102	1103 1729	Connector - 7P	
103	1103 1730	Connector - 8P	
104	1103 1739	Connector - 3P	
105	1103 1743	Connector - 7P	
106	1103 1757	Connector - 7P	
107	1208 1047	Solid State Relay - 240V/3A	
108	1400 0072	Transistor - 2SC372Y	
109	1400 0135	Transistor - 2SA1015-Y	
110	1401 0825	Diode - 1SS176	
111	1407 0520	IC - HD74LS00	
112	1407 0622	IC - HD74LS10P	
113	1407 0981	IC - TD62503P	
114	1407 2028	IC - SN74LS06N	
115	1408 0124	IC - LM555CN	
116	1408 0412	IC - 7705CP	
117	1604 0909	Capacitor - 1µF 50V	
118	1604 1363	Capacitor - 10µF 25V	
119	1604 1366	Capacitor - 47µF 25V	
120	1606 1336	Capacitor - 1000øF 50V	
121	1606 1458	Capacitor - 0.1µF 50V	
122	1611 4101V	Resistor - 1KOHM 14/V ±5%	
123	1611 4102V	Resistor - 1KOHM 1/4W ±5%	
124	1611 4103V	Resistor - 10KOHM 1/4T ±5%	
125	1611 4104V	Resistor - 100KOHM 1/4V ±5%	
126	1611 4380V	Resistor - 380OHM 1/4W ±5%	
127	1611 4771V	Resistor - 470OHM 1/4W ±5%	
128	1611 4472V	Resistor - 4.7KOHM 1/4T ±5%	
129	1611 4562V	Resistor - 5.6KOHM 1/4W	
130	1611 4564V	Resistor - 560KOHM 1/4W	
131	1611 4680V	Resistor - 680OHM 1/4W ±5%	

4. HARNESS LAYOUT (A421)

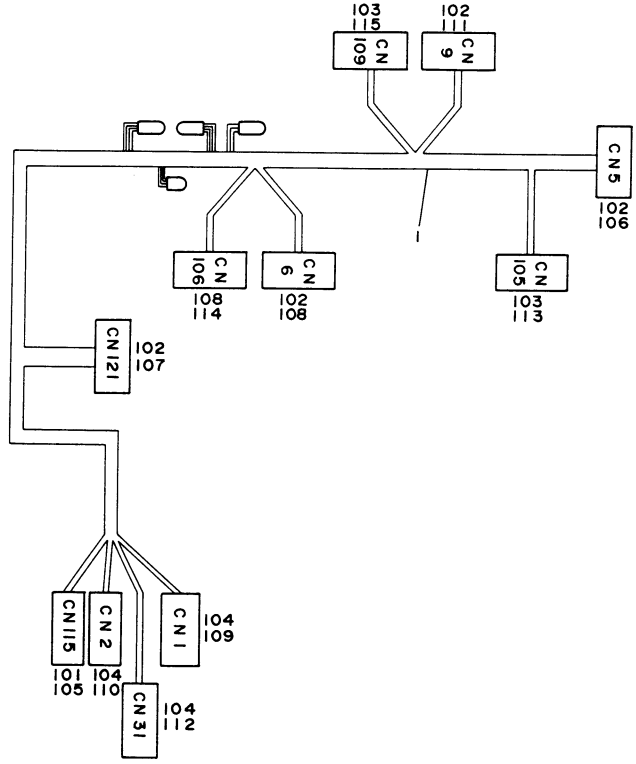


4. HARNESS LAYOUT (A421)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A421 5340	Main DC Harness	1
2	A421 5300	AC Harness - 115V	1
2	A421 5310	AC Harness - 220V	1
3	A421 5330	Tray DC Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly

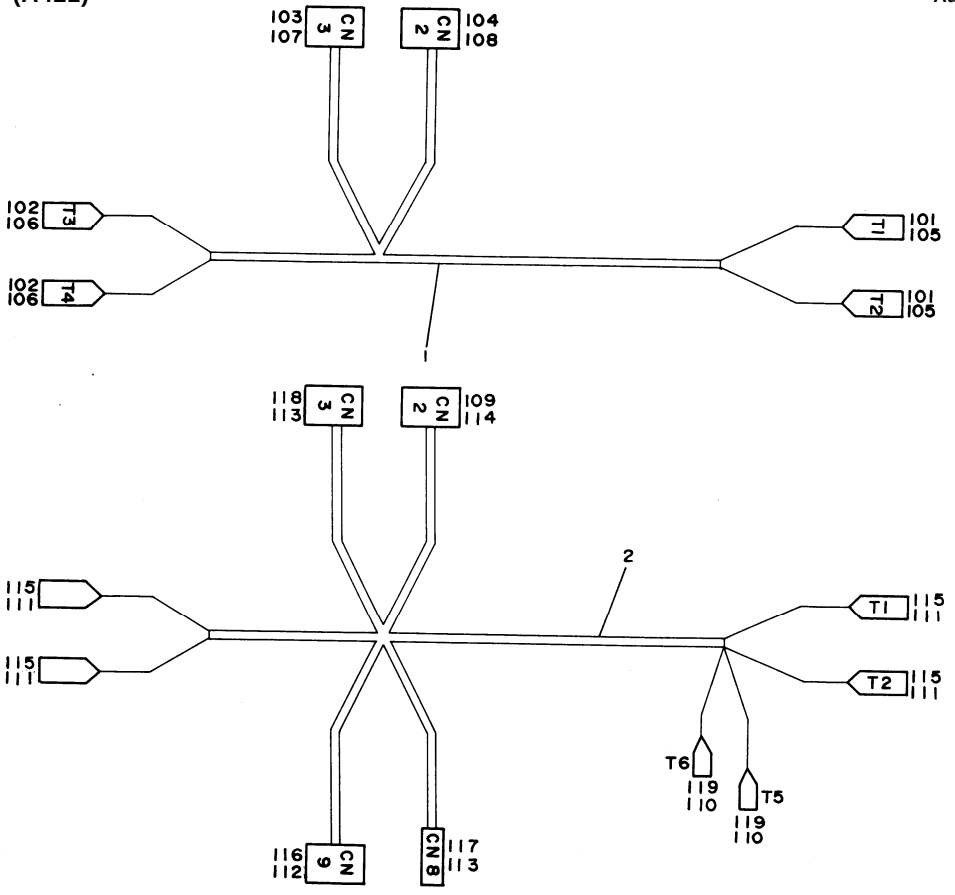
5. MAIN DC HARNESS (A421)



5. MAIN DC HARNESS (A421)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A421 5340	Main DC Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1238	Pin - Mate-N-Lock	
102	1100 1249	Receptacle Terminal	
103	1100 1253	Pin - Mate-N-Lock	
104	1100 1327	Contact	
105	1102 1506	Pin Housing - Mate-N-Lock - 10P	
106	1102 1621	Receptacle Housing - 3P	
107	1102 1623	Receptacle Housing - 7P	
108	1102 1625	Receptacle Housing - 10P	
109	1102 1929	Connector - 7P	
110	1102 1925	Connector - 3P	
111	1102 1784	Connector - 12P	
112	1102 1943	Receptacle Housing	
113	1102 1661	Receptacle Housing - 4P	
114	1102 1778	Connector - 4P	
115	1102 1779	Connector - 12P	

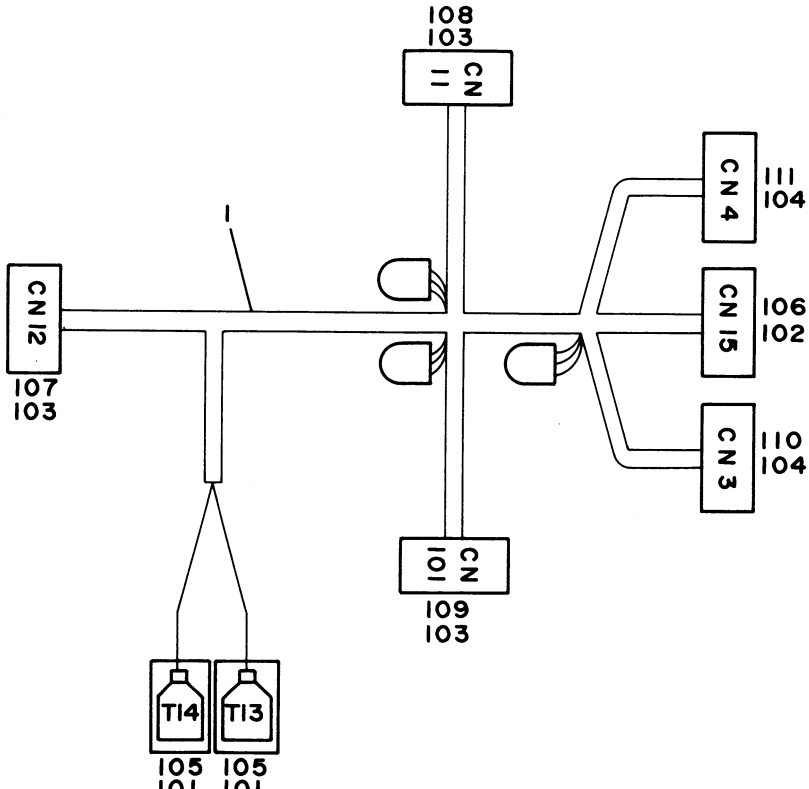

103
107
CN 3
CN 2
104
108
102
106
T3
T4
T1
T2
101
105
1
118
113
109
114
2
115
111
T6
T5
119
110
116
112
CN 9
CN 8
117
113

6. AC HARNESS (A421)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A421 5300	AC Harness - 115V	1
2	A421 5310	AC Harness - 220V	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 0277	Fastening Receptacle	
102	1100 1172	Fastening Receptacle	
103	1100 1241	Socket - Mate-N-Lock	
104	1100 1247	Terminal	
105	1102 0796	Connecting Sleeve 3.0mm - 220V	
106	1102 1404	Receptacle Housing	
107	1102 1516	Connector - 3P	
108	1102 1815	Connector - 3P	
109	1102 1815	Connector - 3P	
110	1100 0885	Fastening Receptacle	
111	1100 1172	Fastening Receptacle	
112	1100 1239	Pin - Mate-N-Lock	
113	1100 1241	Socket - Mate-N-Lock	
114	1100 1247	Terminal	
115	1100 1404	Receptacle Sleeve	
116	1102 1507	Connector - 2P	
117	1102 1514	Connector - 1P	
118	1102 1516	Connector - 3P	
119	1102 1745	Receptacle Sleeve	

7. TRAY DC HARNESS (A421)

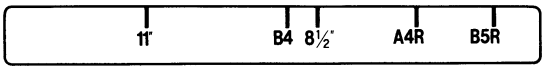


7. TRAY DC HARNESS (A421)

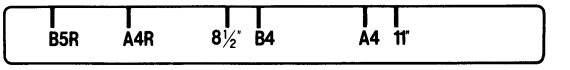
Index No.	Part No.	Description	Q'ty Per Assembly
1	A421 5330	Tray DC Harness	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1192	Receptacle Housing	
102	1100 1240	Socket - Mate-N-Lock	
103	1100 1249	Receptacle Terminal	
104	1100 1327	Contact	
105	1102 1404	Receptacle Housing	
106	1102 1514	Connector - 1P	
107	1102 1620	Connector - 3P	
108	1102 1621	Receptacle Housing - 3P	
109	1102 1623	Receptacle Housing - 7P	
110	1102 1915	Connector - 7P	
111	1102 1916	Connector - 8P	

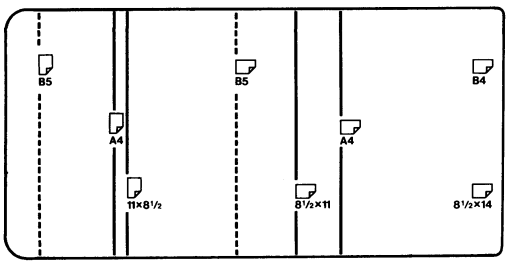
1



2



3

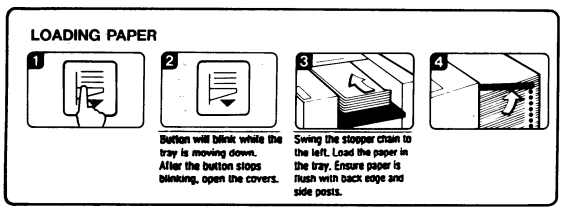


4

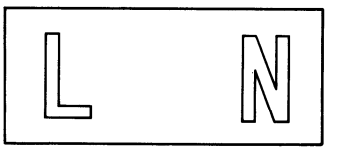
0—OFF 1—ON

DIP SW. / サイズ	1	2	3	4	5	6
B4	0	0	0	1	1	0
A4	0	0	1	0	0	0
A4R	0	0	1	0	1	0
B5	0	0	1	1	0	0
B5R	0	0	1	1	1	0
11"×8½"	1	0	0	0	1	0
8½"×11"	1	0	1	1	0	0
8½"×14"	1	0	1	0	0	0

5


LOADING PAPER
1
2
3
4
Button will blink while the tray is moving down. After the button stops blinking, open the covers.
Swing the stopper chain to the left. Load the paper in the tray. Ensure paper is flush with back edge and side posts.

6



7

Attention: This machine is set for 220V/50Hz.
Achtung : Dieses Gerät ist auf 220V/50Hz eingestellt.

8

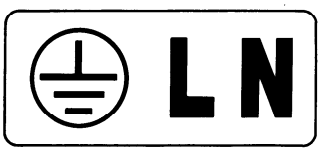
CAUTION

THIS UNIT HAS MORE THAN ONE POWER-SUPPLY CORD. DISCONNECT TWO POWER-SUPPLY. CORDS BEFORE SERVICING TO AVOID ELECTRICAL SHOCK.

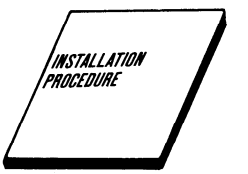
ACHTUNG

VOR ENTFERNEN DER RUCKWAND ALLE NETZSTECKER ZIEHEN.

9



10



8. DECAL (A421)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A421 2508	Front Paper Size Decal	1
2	A421 2510	Rear Paper Size Decal	1
3	A421 1275	Decal - Paper Size	1
4	A421 2576	Decal - Paper Size	1
5	A421 2575	Decal - Operater Instruction	1
6	5403 4335	Decal - Terminal - 115V	1
7	5442 1372	Decal - Power Source - 220V	1
8	5446 8906	Decal - English , German - 220V	1
9	5447 4980	Decal - Terminal - 220V	1
10	A421 8610	Installation Procedure - English	1
10	A421 8615	Installation Procedure - 5 Language	1

Index No.	Part No.	Description	Q'ty Per Assembly

PARTS INDEX

Parts No.	Description	Page and Index No.
A421 1275	Decal - Paper Size	19-3
A421 1275	Decal - Paper Size	7-9
A421 2501	Tray Bottom Plate	7-25
A421 2505	Set Angle	7-26
A421 2508	Front Paper Size Decal	19-1
A421 2508	Front Paper Size Decal	7-35
A421 2510	Rear Paper Size Decal	19-2
A421 2510	Rear Paper Size Decal	7-33
A421 2515	Rear Side Frame	7-40
A421 2520	Actuator - Paper Volume	7-37
A421 2521	Spring - Paper Volume	7-38
A421 2525	Couple Bracket	7-2
A421 2527	Front Paper Size Decal - Left	7-44
A421 2528	Rear Paper Size Decal - Left	7-45
A421 2530	Front Guide Rail	7-1
A421 2531	Front Guide Rail	7-5
A421 2535	Paper Size Stay	7-3
A421 2539	Hole Cover	7-47
A421 2540	Tray Bottom Plate	7-10
A421 2543	Friction Rad - B	7-8
A421 2545	Size Post Rack	7-31
A421 2548	Side Post Grip	7-6
A421 2550	Size Post Rack	7-18
A421 2553	Size Post Rack - Spring Plate	7-17
A421 2554	Side Post Grip	7-4
A421 2561	Tray Main Board Bracket	5-36
A421 2570	Bracket - Cover Plate (115V)	5-23
A421 2575	Decal - Operater Instruction	19-5
A421 2575	Decal - Operater Instruction	5-38
A421 2576	Decal - Paper Size	19-4
A421 2576	Decal - Paper Size	5-40
A421 2580	Front Cover	5-33
A421 2590	Rear Cover	5-16
A421 2600	Side Cover	5-20
A421 2610	Top Cover	5-15

Parts No.	Description	Page and Index No.
A421 5100	Paper Size Board	5-48
A421 5200	Tray Main Board	5-34
A421 5200	Tray Main Board	9-*
A421 5300	AC Harness - 115V	11-2
A421 5300	AC Harness - 115V	15-1
A421 5310	AC Harness - 220V	11-2
A421 5310	AC Harness - 220V	15-2
A421 5330	Tray DC Harness	11-3
A421 5330	Tray DC Harness	17-1
A421 5340	Main DC Harness	11-1
A421 5340	Main DC Harness	13-1
A421 8610	Installation Procedure - English	19-10
A421 8615	Installation Procedure - 5 Language	19-10

Parts No.	Description	Page and Index No.
AA04 0004	Timing Belt - 120XL-037	5-3
AA05 0006	Drive Wire	7-13
AA06 0028	Spring	7-30
AA14 0027	Rack Drive Shaft	7-27
AB01 3045	Worm Gear	5-5
AB01 3046	Gear - 45T	5-13
AB03 0007	Pulley - 10T	5-8
AB03 0008	Pulley - 20T	5-4
AB03 2005	Rack Drive Shaft Pulley	7-15
AX02 0007	Tray Drive Motor - AC35V	5-2
AX02 0008	Tray Drive Motor - AC35W	5-2
A000 2824	Tape	7-28
A403 1103	Harness Cover	7-24
A403 1111	Front Side Frame	7-39
A403 1117	Front AID Plate	5-45
A403 1118	Magnet Collar	5-46
A403 1123	Stopper Bar	5-26
A403 1124	Spring Plate - Stopper Bar	5-42
A403 1125	Stopper Bar Knob	5-29
A403 1126	Stopper Bar Mounting Stud	5-27
A403 1143	Front Wire Tightener	7-34
A403 1145	Rear Wire Tightener	7-14
A403 1147	Chain	7-41
A403 1148	Back Fence	7-43
A403 1166	Safety Switch Bracket	7-20
A403 1167	Clamp Stay	5-6
A403 1168	Sensor Bracket	5-11
A403 1171	Safety Switch Actuator	7-22
A403 1172	Top Actuator Lever	7-21
A403 1174	Bottom Actuator Lever	7-23
A403 1181	Drive Motor Bracket	5-9
A403 1182	Motor Bracket	5-50
A403 1183	Paper Detect Shaft	7-29
A403 1186	Support Bracket	7-32
A403 1187	Rear Support Plate	7-36

Parts No.	Description	Page and Index No.
A403 1188	Drive Shaft	5-14
A403 1238	Right Lift Rod	7-11
A403 1239	Left Lift Rod	7-7
A403 1245	Magnet Catch Plate	5-47
A403 5502	Fuse - 250V 2A	5-19
A912 2596	Operation Skin	5-39
A912 5010	Operation Board	5-30
5053 0419	Bushing - 10mm - Long - 7mm	7-16
5054 0536	Magnet Catch Ass'y	5-44
5205 5250	LED Sensor - Type S	5-10
5304 1639	Bushing - 8mm	5-12
5403 4335	Decal - Terminal - 115V	19-6
5403 4335	Decal - Terminal - 115V	5-49
5408 7968	Power Supply Cord - 220V	5-22
5419 5714	Stepped Screw - M4	5-43
5442 1372	Decal - Power Source - 220V	19-7
5442 1372	Decal - Power Source - 220V	5-37
5443 2713	Wave Washer	5-28
5446 2620	Idler Pulley - 20	7-12
5446 8906	Decal - English , German - 220V	19-8
5446 8906	Decal - English , German - 220V	5-37
5447 4980	Decal - Terminal - 220V	19-9
5447 4980	Decal - Terminal - 220V	5-49
5897 1272	Operation Board Mounting Bracket	5-31
5897 1488	Hook	5-24
5897 1490	Stopper Chain	5-25
5920 1511	Mylar - 100x19mm	7-46
5925 2259	Hook	7-42
5925 2266	Power Cord Bracket	5-21
6769 7930	Power Supply Cord - 115V	5-22

Parts No.	Description	Page and Index No.
0313 0040W	Philips Pan Head Screw - M3x4	7-102
0313 0140W	Philips Pan Head Screw - M3x14	5-101
0314 0040W	Philips Pan Head Screw - M4x4	5-102
0314 0040W	Philips Pan Head Screw - M4x4	7-112
0314 0050W	Philips Pan Head Screw - M4x5	7-105
0314 0060W	Philips Pan Head Screw - M4x6	5-103
0314 0080W	Philips Pan Head Screw - M4x8	5-104
0314 0100W	Philips Pan Head Screw - M4x10	5-105
0314 0200W	Philips Pan Head Screw - M4x20	7-111
0315 0120W	Philips Pan Head Screw - M5x12	5-106
0434 0060W	Tapping Screw - M4x6	5-107
0434 0060W	Tapping Screw - M4x6	7-109
0434 0080W	Tapping Screw - M4x8	5-108
0434 0080W	Tapping Screw - M4x8	7-108
0575 0050E	Hexagon Headless Set Screw - M5x5	5-109
0575 0050E	Hexagon Headless Set Screw - M5x5	7-104
0700 0060B	Washer - 6mm	5-110
0700 0080E	Washer - 8mm	5-115
0720 0030E	Retaining Ring - M3	7-106
0720 0040E	Retaining Ring - M4	7-103
0720 0060E	Retaining Ring - M6	5-111
0720 0060E	Retaining Ring - M6	7-107
0770 0432	Rubber Shoe	7-110
0801 1185	Philips Truss Head Screw - M4x8	5-112
0802 5094	Tapping Screw - M4x8	5-113
0803 0017	Knob Screw	7-101
0951 4006W	Philips Screw With Flat Washer - M4x6	7-113
1100 0277	Fastening Receptacle	15-101
1100 0885	Fastening Receptacle	15-110
1100 1172	Fastening Receptacle	15-102
1100 1172	Fastening Receptacle	15-111
1100 1192	Receptacle Housing	17-101
1100 1238	Pin - Mate-N-Lock	13-101
1100 1239	Pin - Mate-N-Lock	15-112
1100 1240	Socket - Mate-N-Lock	17-102

Parts No.	Description	Page and Index No.
1100 1241	Socket - Mate-N-Lock	15-103
1100 1241	Socket - Mate-N-Lock	15-113
1100 1247	Terminal	15-104
1100 1247	Terminal	15-114
1100 1249	Receptacle Terminal	13-102
1100 1249	Receptacle Terminal	17-103
1100 1253	Pin - Mate-N-Lock	13-103
1100 1327	Contact	13-104
1100 1327	Contact	17-104
1100 1404	Receptacle Sleeve	15-115
1101 0359	Terminal - 3P	5-17
1102 0796	Connecting Sleeve 3.0mm - 220V	15-105
1102 0895	Nylon Stud	5-32
1102 1404	Receptacle Housing	15-106
1102 1404	Receptacle Housing	17-105
1102 1506	Pin Housing - Mate-N-Lock - 10P	13-105
1102 1507	Connector - 2P	15-116
1102 1514	Connector - 1P	15-117
1102 1514	Connector - 1P	17-106
1102 1516	Connector - 3P	15-107
1102 1516	Connector - 3P	15-118
1102 1620	Connector - 3P	17-107
1102 1621	Receptacle Housing - 3P	13-106
1102 1621	Receptacle Housing - 3P	17-108
1102 1623	Receptacle Housing - 7P	13-107
1102 1623	Receptacle Housing - 7P	17-109
1102 1625	Receptacle Housing - 10P	13-108
1102 1661	Receptacle Housing - 4P	13-113
1102 1745	Receptacle Sleeve	15-119
1102 1778	Connector - 4P	13-114
1102 1779	Connector - 12P	13-115
1102 1784	Connector - 12P	13-111
1102 1815	Connector - 3P	15-108
1102 1815	Connector - 3P	15-109
1102 1915	Connector - 7P	17-110

Parts No.	Description	Page and Index No.
1102 1916	Connector - 8P	17-111
1102 1925	Connector - 3P	13-110
1102 1929	Connector - 7P	13-109
1102 1943	Receptacle Housing	13-112
1103 1247	Connector - 3P	9-101
1103 1729	Connector - 7P	9-102
1103 1730	Connector - 8P	9-103
1103 1739	Connector - 3P	9-104
1103 1743	Connector - 7P	9-105
1103 1757	Connector - 7P	9-106
1104 0322	Fuse Holder	5-18
1105 0016	Nylon Clip - 4N	5-114
1105 0108	Nylon Clip	5-7
1106 0336	Nylon Stud	5-35
1106 0442	Cord Clamp - 220/240V	5-41
1107 0487	Circuit Breaker - 115V	5-19
1204 1280	Push Switch	7-19
1208 1047	Solid State Relay - 240V/3A	9-107
1400 0072	Transistor - 2SC372Y	9-108
1400 0135	Transistor - 2SA1015-Y	9-109
1401 0825	Diode - 1SS176	9-110
1407 0520	IC - HD74LS00	9-111
1407 0622	IC - HD74LS10P	9-112
1407 0981	IC - TD62503P	9-113
1407 2028	IC - SN74LS06N	9-114
1408 0124	IC - LM555CN	9-115
1408 0412	IC - 7705CP	9-116
1604 0909	Capacitor - 1µF 50V	9-117
1604 1363	Capacitor - 10µF 25V	9-118
1604 1366	Capacitor - 47µF 25V	9-119
1606 1246	Capacitor - 9µF 250V	5-1
1606 1336	Capacitor - 1000øF 50V	9-120
1606 1458	Capacitor - 0.1µF 50V	9-121
1611 4101V	Resistor - 1KOHM 14/V ±5%	9-122
1611 4102V	Resistor - 1KOHM 1/4W ±5%	9-123
1611 4103V	Resistor - 10KOHM 1/4T ±5%	9-124
1611 4104V	Resistor - 100KOHM 1/4V ±5%	9-125
1611 4380V	Resistor - 380OHM 1/4W ±5%	9-126
1611 4472V	Resistor - 4.7KOHM 1/4T ±5%	9-128
1611 4562V	Resistor - 5.6KOHM 1/4W	9-129
1611 4564V	Resistor - 560KOHM 1/4W	9-130
1611 4680V	Resistor - 680OHM 1/4W ±5%	9-131
1611 4771V	Resistor - 470OHM 1/4W ±5%	9-127

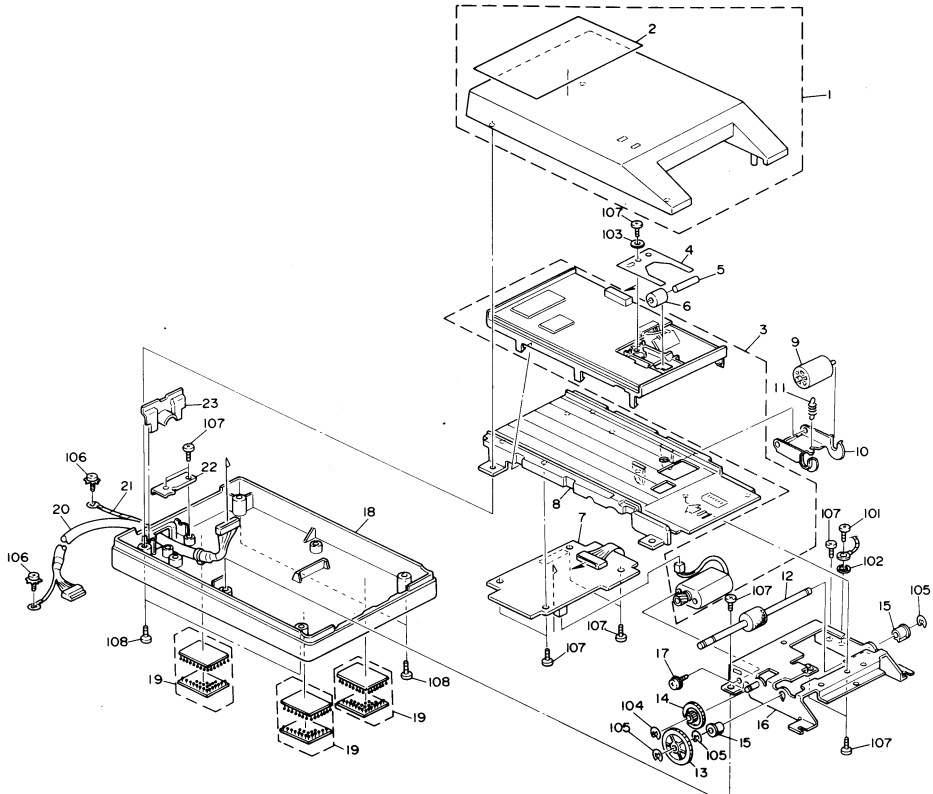
MR20

(A952)

MR20 (A952)

1. Menu Reader (A952) 2
2. Decal and Document (A952) 4
Parts Index 8

1. MENU READER (A952)

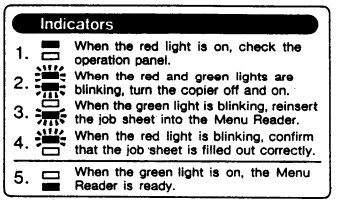


1. MENU READER (A952)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A952 1001	Upper Cover - LT	1
1	A952 1004	Upper Cover - A4	1
2	A952 1003	Indicator Decal - English	1
2	A952 2001	Indicator Decal - Multi	1
3	A952 9500	Sheet Read Boards & Motor	1
4	A952 1150	Leaf Spring	1
5	A952 1151	Shaft - Upper Transport Roller	1
6	A952 1152	Upper Transport Roller	1
7	A952 1160	Motor Control Board	1
8	A952 1105	Menu Sheet Table – LT	1
8	A952 1106	Menu Sheet Table - A4	1
9	A952 1161	Sheet Read Roller	1
10	A952 1162	Bracket - Sheet Read Roller	1
11	A952 1163	Spring - Sheet Read Roller	1
12	A952 1171	Lower Transport Roller	1
13	A952 1172	Gear - 62Z	1
14	A952 1173	Gear - 46Z	1
15	A952 1174	Bushing	2
16	A952 1176	Motor Bracket	1
17	A952 1177	Motor Screw	2
18	A952 1203	Lower Cover	1
19	A952 1250	Velcro	3
20	A952 1204	Interface Harness	1
21	A952 1205	Grounding Wire - 115V	1
21	A952 1209	Grounding Wire - 220/240V	1
22	A952 1251	Harness Clamp	1
23	A952 1207	Shielding Plate	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0312 5060M	Philips Pan Head Screw - M2.5x6	
102	0704 0025J	Toothed Washer - M2.5	
103	0708 0025B	Flat Washer - M2.5	
104	0720 0020B	Retaining Ring - M2	
105	0720 0030B	Retaining Ring - M3	
106	0801 1185	Philips Truss Head Screw - M4x8	
107	0985 2560B	Tapping Screw - M2.5x6	
108	0985 2580B	Tapping Screw – M2.5x8	

2


Indicators
1. When the red light is on, check the operation panel.
2. When the red and green lights are blinking, turn the copier off and on.
3. When the green light is blinking, reinsert the job sheet into the Menu Reader.
4. When the red light is blinking, confirm that the job sheet is filled out correctly.
5. When the green light is on, the Menu Reader is ready.

2. DECAL AND DOCUMENT (A952)

Index No.	Part No.	Description	Q'ty Per Assembly
2	A952 1003	Indicator Decal - English	1
2	A952 2001	Indicator Decal - Multi	1

Index No.	Part No.	Description	Q'ty Per Assembly

PARTS INDEX

Parts No.	Description	Page and Index No.
A952 1001	Upper Cover - LT	3-1
A952 1003	Indicator Decal - English	3-2
A952 1003	Indicator Decal - English	5-2
A952 1004	Upper Cover - A4	3-1
A952 1105	Menu Sheet Table - LT	3-8
A952 1106	Menu Sheet Table - A4	3-8
A952 1150	Leaf Spring	3-4
A952 1151	Shaft - Upper Transport Roller	3-5
A952 1152	Upper Transport Roller	3-6
A952 1160	Motor Control Board	3-7
A952 1161	Sheet Read Roller	3-9
A952 1162	Bracket - Sheet Read Roller	3-10
A952 1163	Spring - Sheet Read Roller	3-11
A952 1171	Lower Transport Roller	3-12
A952 1172	Gear - 62Z	3-13
A952 1173	Gear - 46Z	3-14
A952 1174	Bushing	3-15
A952 1176	Motor Bracket	3-16
A952 1177	Motor Screw	3-17
A952 1203	Lower Cover	3-18
A952 1204	Interface Harness	3-20
A952 1205	Grounding Wire - 115V	3-21
A952 1207	Shielding Plate	3-23
A952 1209	Grounding Wire - 220/240V	3-21
A952 1250	Velcro	3-19
A952 1251	Harness Clamp	3-22
A952 2001	Indicator Decal - Multi	3-2
A952 2001	Indicator Decal - Multi	5-2
A952 9500	Sheet Read Boards & Motor	3-3

Parts No.	Description	Page and Index No.
0312 5060M	Philips Pan Head Screw - M2.5x6	3-101
0704 0025J	Toothed Washer - M2.5	3-102
0708 0025B	Flat Washer - M2.5	3-103
0720 0020B	Retaining Ring - M2	3-104
0720 0030B	Retaining Ring - M3	3-105
0801 1185	Philips Truss Head Screw - M4x8	3-106
0985 2560B	Tapping Screw - M2.5x6	3-107
0985 2580B	Tapping Screw - M2.5x8	3-108